

**Chinese
Weightlifting**
A Visual Guide to Technique



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Introduction





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Introduction

In our first book, Chinese Weightlifting: Technical Mastery and Training, we covered the scientific foundation for various elements of the Chinese weightlifting system, such as biomechanics, philosophy, the 7 training systems, athletic development, and programming for different types of athletes. We also provided an overview of Chinese weightlifting techniques, and it was the first textbook to present the Chinese system in various languages.

This book builds on that work by providing a practical guide to performing the snatch, clean, and jerk using Chinese weightlifting techniques and how to overcome technique issues to improve your lifting and enhance your coaching. Professional weightlifting coaches in China implement these techniques with their athletes, especially at the beginner stage. However, since most readers are not training professionally or with coaches, this book is the next best alternative. We organize the text in the following ways:

First, we point out technical elements and their importance. Part of improving your technique is to know what to look for in your movement; otherwise, it is impossible to know, with certainty, what to fix.

Next, we show the Chinese technical standards and explain their rationale. There is a lot of information online about weightlifting techniques, and some of the methods in this book might be opposite from how you have learned, or they might provide a different perspective for performing the snatch, clean, or jerk. Regardless, we feel the Chinese style is the most effective style for amateur and professionals to lift the heaviest weight and the most reps with the least stress on the body. We also feel it is easy to teach and easy to learn.

Afterward, we identify and analyze the most common faults observed in China and abroad so you can avoid them in your teaching or training. There are many other faults possible, and sometimes a fault results from an earlier problem. For example, a fault during the catch can result from an incorrect start position. But we mainly focus on issues for that specific part of the lift (such as bent arms during the catch). The best way to use this book is to reference the technical issue you have and try implementing the standards and advice. If you still have difficulty, go to the previous step to see if it helps resolve your technical issue. You can use this book as a quick reference while at the gym or study at home. If you are new to weightlifting, then start from the beginning.

Finally, we provide internal cues, external cues, and training recommendations to guide you toward implementing Chinese weightlifting techniques. These tips combine our own coaching experience, best practices established in China, and scientific understanding of the human body. You do not have to implement all of them; it is better to try them one at a time to find what works for your training or coaching. Some faults are possible if you have experienced injury or movement restrictions from lack of flexibility or mobility. While we provide some general training guidance in that area, physical assessment is beyond the scope of this book. If you have significant movement restrictions, you might need to see a physical therapist or follow a dedicated program.

Since the snatch and clean have very similar start positions and deadlifts, we created a single Start Position chapter and Deadlift chapter. And the Jerk chapter reviews techniques that are identical for the split jerk and squat jerk. The remaining chapters discuss the snatch, clean, split jerk, and squat jerk, respectively.

The Five Words





Chinese Weightlifting Philosophy

The standards discussed throughout this book come from a philosophy of weightlifting developed in the late 1960s in China. In our textbook “Chinese Weightlifting: Technical Mastery & Training,” we outline the biomechanical foundation for this philosophy. Here, we provide a brief introduction so you can understand the framework used for evaluating the quality of a lift. The weightlifting philosophy in China consists of 5 words: close, fast, low, timing, and stable.

The “close” principle means the barbell must be close to your body, but your body must also stay close to the barbell. Satisfying this principle keeps the center of gravity of the barbell close to you, which reduces its resistance to movement. However, it also brings your center of gravity close to the barbell’s center of gravity, making it easier to lift. The best lifters can satisfy this principle on the way up and on the way down.

The second word is “fast,” and is often misunderstood by athletes and coaches. It means the upward speed of the barbell must increase and be fast at the most basic level. Many beginners misinterpret this concept and simply pull the bar forcefully off the ground and lose their position. In this situation, your body moves quickly, but the barbell still moves slowly because you waste a lot of your energy as you lose posture. Instead, you should push the barbell off the ground smoothly while maintaining a speed that satisfies the ‘close’ principle because this allows you to transfer the most force into the barbell and maximize its speed.

The third word is “low,” which means you should catch the barbell in the lowest position possible while maintaining your balance and tension. If you can stay close to the barbell, then you can exert the most force because the barbell is less resistant to your effort. This exertion maximizes the barbell’s acceleration, speed, upward momentum, and the height it can attain. The higher the barbell travels, the more time and space available to catch in a low position. But maximizing height does not mean you must pull as high as possible. It means you should save energy and pull to the minimum height necessary and then let the barbell’s upward momentum do the rest of the work. This strategy maximizes the weight you can catch.

The fourth word is “timing,” which refers to coordinating your muscles at the right time to transfer the most force and achieve a very distinct rhythm of movement. The rhythm is measured from the moment of extension to the finished catch position. In general, a shorter time creates a better rhythm in the lift if the barbell reaches the appropriate extension point. In competitions, athletes with excellent timing lift the barbell quickly while their body seems to move smoothly and easily, even while lifting heavy weights. Other athletes move their bodies very quickly, but the barbell moves slowly, and they cannot catch it in a secure and stable position. In this case, the entire movement looks like a struggle, and the rhythm long or unclear.

The final principle is “stable,” which means the athlete should keep their balance throughout the lift. While most coaches and athletes are concerned with balance in the forward-backward (sagittal) direction, they should focus on staying balanced in the side-to-side (frontal) and rotational

(transverse) directions. Stability comes from satisfying the “close, fast, low, and timing” principles. As the barbell reaches its maximal height and the athlete descends into their lowest position, it will be possible for them to catch the barbell near its apex. Catching at this point reduces the downward momentum of the barbell and its stress on the joints and muscles. Therefore, this principle disperses the barbell’s force evenly throughout the body and minimizes the pressure on the joints.

The five words are interrelated and reinforce each other. It is impossible to maximize the barbell’s speed without being close. It is impossible to maximize the weight you can catch without maximizing the barbell’s speed and attainable height. It is impossible to have a good rhythm with the barbell moving slowly and the athlete catching high. And without proper timing, it is difficult to catch the barbell near its apex and in a stable position. Finally, it is difficult to be close to the barbell and exert maximal force if you are off-balance at any point during the lift.

If you can satisfy these words, you can lift the heaviest weight with the least stress on your joints, muscles, and ligaments. You can also perform more sets and reps because your lifts will cost less energy. And for a given amount of volume, you will recover quicker than an athlete who performs with an inefficient technique. Therefore, satisfying the 5 words provides the foundation for you to train with greater intensity, volume, and frequency, which will help you improve. And the 5 words provide the framework to analyze the quality of the snatch, clean, and jerk.

We look forward to hearing about how the techniques in this book influence your weightlifting technique and confidence. We would love to hear about your results, so join our [newsletter](#) and let us know!

Start Position





Stance Width

The stance width is your foundation for the snatch and clean. It determines how the rest of your body will position itself and how high you can extend. Your stance should feel comfortable and powerful to give you confidence in your lifting.

The standard in China is to use a hip-width stance for the snatch and clean. This width is optimal because it is similar to how most athletes jump vertically; therefore, it provides the most power. And this stance creates enough space to lower the body into the start position while allowing you to the highest height during the extension.

Using the same hip-width stance for the snatch and clean means the snatch improves from direct training and is also reinforced when training the clean (and vice versa). The result is that you do not have to practice the complete lift every day and instead have a greater variety in your training to help avoid injuries from repetitive stress. Additionally, you can devote more time to training strength, power, speed, and other athletic characteristics.

Fault:

Some athletes try to lift with a less than hip-width stance because it allows their body to achieve a higher extension and create more acceleration due to this longer range of motion. However, using a narrow stance demands more flexibility in your ankles, hips, and spine and requires more work from your legs to stand up. Most athletes do not have sufficient mobility in the hips or ankles to lower themselves into a proper start position with this stance.

Other athletes use a stance that is wider than hip-width. This stance provides ample room to lower the body; however, it also results in a shorter height for the extension. Many athletes compensate by leaning back to lengthen their range of motion, but this movement violates the “close” principle and can create excessive backward momentum on the barbell. Not only can you lose the barbell behind you, but it is challenging to catch the barbell with a wider stance and still create enough depth (which violates the “low” principle). Therefore, only use a wider stance if you are uncomfortable in a hip-width stance.

Coaching Tips:

- To find your stance, try to:
 - Position yourself to jump vertically, then look at your natural stance.
 - Alternatively, prepare as if you are about to sprint, then evaluate your stance width.

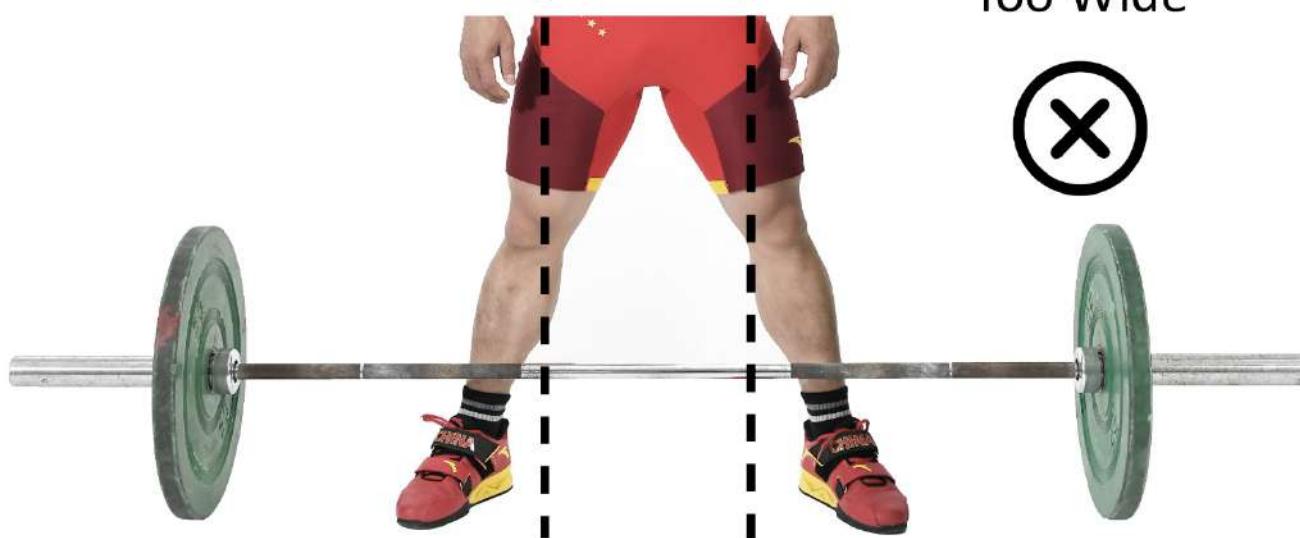
Standard



Too Narrow



Too Wide



Stance Distance

The stance distance determines the quality of your extension for the snatch and clean and which muscles must perform the work. Using a consistent distance will help develop your muscle memory more quickly.

The standard in China is to use a distance that maximizes the work in the glutes and quadriceps. To do this, athletes stand at a distance that places their foot pressure firmly on the ball of the foot. This pressure is optimal because athletes naturally push through the ball of the foot at the end of a vertical jump. So starting from this position can ensure the athlete stays “close” to the vertical line over the ball of the foot while minimizing horizontal forces on the barbell. This stance is the same for the snatch and clean to allow your ankles, knees, and hips to work similarly through the extension, building muscle memory more quickly.

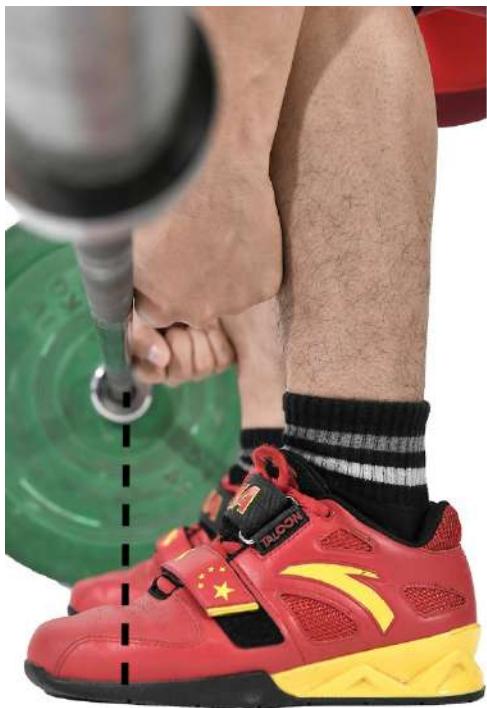
Fault:

Measuring a distance closer to your ankle is not optimal for jumping vertically. In this position, the barbell must travel forward to the ball off the foot, which can create excessive forward momentum on the barbell. Alternatively, you will extend with little to no plantarflexion, which reduces your speed and the force you transfer into the barbell (which violates the “fast” principle). Many athletes compensate by leaning backward to generate a more range of motion to create barbell speed, but this can cause you to jump back, which is more work and violates the “close” principle.

If you use a distance beyond the ball of the foot, then you place the barbell farther away from your body, which violates the “close” principle. This position forces your ankles, knees, and hips to flex more to stay close to the barbell, making these areas perform more work at a given weight. And lifting this way will pull your body forward to follow the barbell, which violates the “stable” principle.

Coaching Tips:

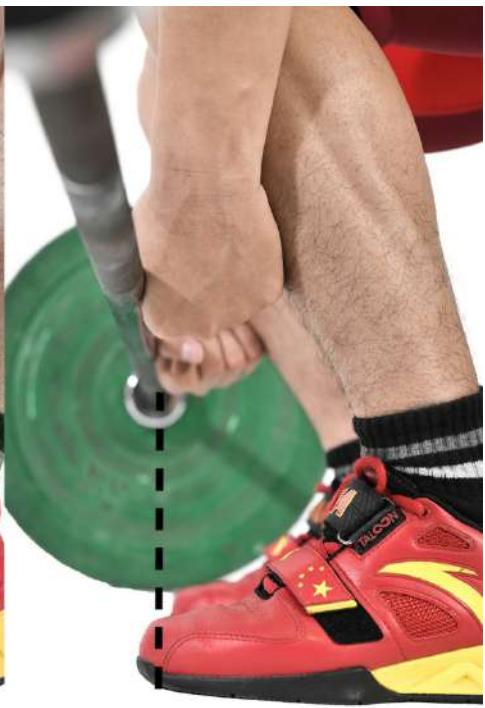
- You can measure the optimal distance by bending over while maintaining your shins vertical and feet flat, then measure one fist-width from a vertical shin and the barbell.
- Avoid squatting down to measure because this inclines your shins and places the bar over the toes or further.
- Avoid sitting back on the heels when measuring because the bar will be too close to your body.
- You must use *your* hand to measure to ensure the distance coincides with your body proportions; otherwise, the barbell might be too close or too far.
- If you have space between your fist and the barbell, move closer to the barbell.



Optimal
Distance



Too
Close



Too
Far



Shin Position

Your shins help determine how close your body is to the barbell and creates a limit on how close the barbell can be to your body. Therefore, the shin position influences the barbell's location, which affects your balance and the work your muscles perform.

The standard in China is to move the shins forward and eliminate gaps with the barbell while keeping the pressure on the ball of the foot. This position reduces the resistance of the barbell so the body can move it more easily. And it allows the lower body muscles to stay closer to their resting length, which allows for greater contraction force during the pull. And it prevents the barbell from moving during the start position, which helps maintain balance.

Fault:

If your shins are forward, but you still have a gap, then the barbell is too far away. In this case, your body is close, but the barbell is not. Lifting from this position will swing the bar inward if you are strong enough, which creates backward momentum that can reduce your extension. If the barbell is too heavy, then your body might get pulled forward. In both cases, you violate the "stable" principle, and the barbell travels a greater distance to reach the same height.

If the barbell is over the ball of your foot, but you still have a gap, then your shins are not inclined enough, and your balance is too far behind. In this case, the barbell is close, but the body is not. Lifting from this position violates the "stable" principle because your balance shifts towards your heels and can create backward momentum for the barbell, causing you to jump back during the extension.

Coaching Tips:

- Walk to the bar with your feet straight, so you are one fist-width away from the barbell, then move your shins to the barbell.
- Wear weightlifting shoes
- If you feel weak or unstable, strengthen your anterior shin muscles with movements that push your shin forward, such as:
 - Lunges,
 - Narrow stance squats,
 - Step-ups,
 - Single-leg squats.
- Avoid squatting down to contact the barbell because a squat maintains balance over the midfoot instead of shifting your balance toward the barbell.
- For beginners, avoid grabbing the barbell before moving your shins.



No Gap between
Shin & Bar



Gap between
Shin & Bar



Foot Balance

Your foot balance determines your overall stability, which influences how strongly you can produce force and where you aim it. So, to maximize vertical power, you must push from a stable foot position.

The standard in China is to keep flat feet with pressure over the ball of the foot during the deadlift. Staying flat-footed increases the base in contact with the ground, which maximizes the athlete's stability. Shifting your balance forward to push through the ball of the foot mimics the athlete's vertical jumping force, maximizing the power available to transfer into the barbell. Maintaining this pressure through the deadlift helps minimize horizontal forces and preserve balance.

Fault:

Sometimes, an athlete squats down during their start position, but this movement maintains their balance over the midfoot or heel (if the barbell is too close) instead of shifting your balance toward the barbell. However, even after setting up properly, it is possible to tense your body and change your position. For example, some athletes lower their hips when trying to straighten the back in the start position. This hip position shifts their balance towards the heels and can lift their toes off the ground. This movement reduces your connection with the floor and makes it easy to fall backward in this position.

Other athletes attempt to stay over the bar so much that their balance is too far forward, and their heels can lift off the ground. This position reduces their connection with the ground, and the barbell must travel around the shins and knees. As the barbell drifts away, it becomes more difficult to lift the barbell while increasing stress on the back muscles and shoulders. It is common for the barbell to pull the athlete so much that they jump forward during their lifts.

Coaching Tips:

- If your heels rise, see the Shin Position section.
 - Otherwise, just shift your balance back until your feet are flat.
- If your toes lift off the ground. Then:
 - Imagine grabbing the ground with your toes, like a tiger.
 - Place a piece of tape under the ball of your foot, then press into it during your start position.



Balance on
the Ball of
foot



Balance on
the Heels



Balance on
the Toes



Foot & Knee Alignment

Properly aligning your joints influences how close your body can be to the barbell and the range of motion your joints travel. Therefore, your joint alignment influences your balance, stability, timing, and force production. So, it is essential to have a proper joint alignment to avoid overloading muscles, tendons, or ligaments.

The standard in China is to turn the feet outward and keep the midline of the foot aligned with the knees. In this position, there is equal pressure between the lateral and medial sides of each foot. The exact foot angle depends on the athlete's hip structure, but the glutes must contract to rotate the knees. This rotation brings the hips closer to the bar and allows the athlete to push from the entire foot, making it easier to move the barbell and apply vertical force.

Fault:

If you rotate your knees outward too much, your pressure will be on the lateral edge of your foot. This knee angle reduces the contribution of your adductors to extend the hip and overstresses the posterior and lateral tissues of the knee.

If you rotate your knees inward, your pressure will be on the medial edge of your foot. This knee angle reduces the contribution of your hip external rotators (i.e., glutes) to extend and stabilize the hip while overstressing the medial aspects of the knee.

Some athletes lift the medial or lateral edges of their off the ground, which reduces their connection with the floor and can stress the ankle tendons and ligaments. All these faults violate the stable “principle” and reduce your power production, which breaks the “fast” principle.

Coaching Tips:

- Draw a straight line from the knee toward the floor.
 - If the line is outside the foot, then observe whether your feet are pointing straight ahead.
 - If yes, rotate your feet outward until they align with your knee. If adjusting your foot angle does not resolve your foot pressure, then stand wider until you are pushing through the midline of your foot.
 - If no, then rotate your knees inward until they align with your feet.
 - If the line is inside the foot, then observe whether your feet are rotated outward.
 - If yes, rotate your feet inward until they align with your knee. If adjusting your foot angle does not resolve your foot pressure, then stand narrower until you are pushing through the midline of your foot.
 - If no, then rotate your knees outward until they align with your feet.



Lower Back Position

The role of your lower back is to prevent spinal flexion, keep the barbell close to your body, and transfer the most force from your ankles, knees, hips as they straighten to lift the barbell vertically.

The standard in China is to contract the lower back muscles to maintain an upright torso and the natural curvature of the lumbar spine. This contraction also allows you to stay close to the barbell in the start position and prepares the body to transfer vertical force.

Fault:

Some athletes hyperextend the lower back to apply greater upward and backward force. But this posture stretches the abdominals, making it difficult to brace the core, which overloads the vertebrae and lower back muscles. This position can also move your torso lower, which increases the range of motion your torso must work to straighten. This posture can violate the “close” principle by shifting your balance towards the toes and increasing instability.

Athletes who round their lower back as they bend over to grab the bar can stretch and relax the erector muscles. This position violates the “close” principle because it lengthens the distance between the torso and the barbell, which increases the difficulty in lifting the barbell.

Coaching Tips:

- Push your knees out to create enough room to lower your body between your legs.
- Imagine sitting upright and straight as you grab the bar.
- If your lower back is hyperextended, flex your abdominals until you feel braced.
- If your lower back is flexed and you cannot straighten your back, then:
 - Start the lift from blocks, using a height where you can maintain the natural curvature of your spine.
 - Incorporate lifts from the hang position at the lowest height where you can maintain your lower back position.
 - Use sumo deadlifts with a weightlifting stance to reduce mobility demands on your lower back while building muscle memory for your lower body.



Straight
Back



Hyperextended
Back



Rounded
Back



Grip

An optimal grip allows you to hold the barbell through the entire range of motion confidently. It helps distribute tension optimally throughout the body to transfer vertical force.

The standard in China, and the rest of the world, is the hook grip characterized by pressing the web between the thumb and index finger deep against the barbell, then wrapping the thumb around the barbell as far as possible, and then wrapping the index finger and middle fingers around the thumb. This grip reduces the ability of your hand to slip during the pull by allowing your thumb to apply an upward force against the barbell and creating a shelf to hook your index and middle fingers.

Fault:

Beginners often use a normal grip, which presses their thumb onto the index finger and middle finger. This grip is weaker than the hook grip because the muscles that bend your thumb with weaker muscles that adduct the thumb. Additionally, the thumb is no longer flexing against the barbell, which increases the workload on the remaining fingers, especially the index and middle fingers.

If the weight is heavy or your grip fatigues, you will need to grip the barbell harder, but this can create tension elsewhere on the body and reduce your ability to transfer vertical force, which violates the “fast” principle. Therefore, only use this grip during warmups, when using straps, or when actively trying to increase hand strength during assistance movements. A false grip is an even weaker grip because it does not use the full force of your fingers, so under no circumstances should you use it.

Coaching Tips:

- Loosen your thumb grip slightly if you feel an uncomfortable stretch in your wrist (CMC joint) or base of your thumb (MCP joint).
- Use tape around the thumb phalanges to reduce discomfort and increase adhesiveness to the bar.
- Only grip as tight as possible without contracting your forearms or biceps.
- Some athletes maintain the hook grip throughout the lift while others release it during the catch to achieve more stability, mobility, and comfort. Neither way is better, and the release should occur naturally for the athlete instead of teaching it.



Hookgrip



Normal Grip



False Grip



Wrist Position

Your wrist position can influence the tension in your hand and forearm muscles. This tension can alter the barbell's location and speed, affecting your balance and how your upper body and lower body coordinate to move the barbell.

The standard in China is to use a hook grip and keep the wrists relaxed to avoid moving the barbell from the ball of the foot. Relaxing the wrist aligns it vertically with your arms, which makes them conducive to transferring vertical force. This position avoids overloading your forearm flexors, pronator muscles, and hand muscles, helping reduce stress on the elbow.

Fault:

Some athletes flex their wrists to feel a sense of control and security when grabbing the barbell, especially if they do not use a hook grip. However, this flexion produces a horizontal force towards your body and moves your arms away from your torso. This movement violates the "close" principle because it can pull on your torso, causing your spine to flex and relax your back muscles. It also violates the "stable" principle by shifting your balance forward and reducing your ability to push against the ground forcefully.

When you lift the barbell, your wrist is not strong enough to overpower the barbell for the duration of the deadlift. Therefore, the barbell will move towards the floor as you try to lift it. This movement violates the "fast" principle because the barbell is not going in the direction you intend for it. And the barbell swings away from your body when wrist straightens, increasing the distance between your body and the barbell.

Some athletes adjust their shins backward to roll the barbell inward and avoid moving their arms away from the body. This adjustment violates the "close" principle and can cause your toes to lift off the ground. It also shifts the load from your quadriceps and glutes to your hamstrings and lower back, which reduces your pushing power.

Coaching Tips:

- Once you grab the barbell with a hook grip, relax your wrists and forearms.
- Do not try to force your wrists into any position.
- Lift your torso to remove slack from your arms.
- Imagine your arm and wrist as a taught rope attached at your shoulder.



Wrists Relaxed



Wrists Tensed



Chest Position

The pectoralis muscles affect the position of your humerus and guide the contraction of your back muscles. Therefore, it is essential to determine the correct chest position to optimize these criteria.

The standard in China is to push the chest out and contract it during the start position. Pushing the chest out arches your thoracic spine slightly, naturally contracts your rear deltoids and latissimus dorsi, and extends your shoulder toward the anatomical position, all of which maintain the barbell close to the body. Contracting the chest in this position also pulls against the barbell, keeping the humerus attached to the shoulder and internally rotated.

Fault:

It is tempting to retract your shoulders and pull them down to extend your torso. Some athletes in the West learn to contract their lats to keep the bar close. The problem is these actions continue after your chest is stretched out maximally. Therefore, you are introducing extra movements that result in excessive backward force and momentum during the lift. And some athletes lower their hips as they perform these extra movements, which shift their balance away from the ball of the foot and violate the “close” principle.

If you do not engage your chest correctly, it is easy to round your upper back in the start position, which violates the “close” principle and prepares you to break the “fast” principle. This rounding lengthens the distance between your body and the barbell, and the distance the barbell must travel, puts more stress on your spine and back muscles, and reduces your ability to transfer force through the torso.

Coaching Tips:

- If you have a shirt with a logo, focus on pointing the logo directly away from you.
- Expand the logo while keeping your arms relaxed.
- If you have trouble feeling the tension in your chest, then stand up straight with your arms at your sides.
 - Have a partner grab your hand and pull your arm straight down, so your shoulder slouches a bit, and your torso bends laterally.
 - From this position, stand up into a natural upright position.
 - For extra feeling, have a partner use their free hand to touch your chest and try to contract your pectorals in response.

Optimal
Chest
Position



Overactive
Shoulders
& Back



Chest Caved,
Back
Rounded



Elbow Position

In the start position, your elbows can affect the tension in your arms, the position of your shoulders and torso, the barbell's trajectory, and how you apply force.

In China, the elbow should not point directly out to the sides but rather slightly behind. The elbow reacts to the position of the shoulder and the contraction of the chest. Pushing the chest out retracts the shoulder and pulls the arm back, but contracting the pectorals rotates the arm internally and keeps the humerus in the shoulder joint—this combination of tension results in the elbow pointing slightly back, naturally. Therefore, most coaches focus on the chest position rather than altering the direction of the elbow points.

Fault:

Some athletes learn to rotate their elbows back to help contract their back muscles, create elbow torque to keep the barbell close, and maintain an upright position. However, this fault retracts your shoulders and contracts your lats excessively, causing excessive backward movement. And this movement limits their ability to lift upward and keep the barbell close during the extension.

In the West, some athletes learn to rotate their elbows forward so their joint points directly to the sides. The rationale is to position the elbows so they point upward during extension. The problem with this forward movement is that the arm is already internally rotated, so forcing more rotation protracts your shoulders and deflates your chest position. This position relaxes your midback and upper back muscles, which creates a gap between your body and the barbell and limits the force you can transfer through the torso. Thus, excessive internal and external elbow rotation can violate the “close” and “fast” principles.

Coaching Tips:

- After setting up your lower body, grab the barbell, and focus on pushing your chest out.
- Keep your arms relaxed and stretched.
- Allow your elbows to point in their natural position.
- You can place a piece of tape on the tip of your elbow and observe its position, as shown in the lower panel images.



Elbows
Neutral



Elbows
Rotated Back



Elbows
Rotated Forward



Arm & Shoulder Tension

Creating tension in your arms and shoulders can alter the position of your torso, which affects the workload performed by the upper and lower body in the start position and throughout the snatch and clean.

The standard in China is to tense the arms, shoulders, and upper trapezius by stretching the torso against the barbell rather than by contracting these muscles. Slightly lengthening the muscles in these areas creates tension, which can increase their speed of contraction and help maintain posture. As this occurs, the athlete pushes their chest out and contracts it against the barbell to keep the humerus in the shoulder joint.

Fault:

Flexing your arms in the start position creates many problems. First, it forces your torso to bend over a greater degree to grab the bar, which means your lower back must perform more work to keep your torso rigid. If your arms are not strong enough to maintain this faulty position as you lift, you will create downward momentum on the barbell and violate the “fast” principle.

Second, your balance may shift excessively forward due to this barbell movement, which violates the “stable” principle. Third, because your hips are more flexed and shoulders are farther forward, they must perform more work to straighten your body. If they are not strong enough or fast enough, then the barbell will be too far in front of you, causing you to jump forward.

Shrugging the shoulders contracts the trapezius and lateral deltoids prematurely. This movement also lowers your torso and creates many of the same issues as with bending your arms. And shrugging the shoulders in the start position can tilt your shoulder blades forward, which reduces the rigidity in your upper back.

Coaching Tips:

- Imagine sitting tall until you feel a stretch in your arms and upper trapezius.
- Imagine keeping your arms long and relaxed.
- Imagine your arm and wrist as a taught rope attached at your shoulder.
- Use straps to help relax your arms while maintaining a firm grip with the bar.

Arms
Stretched &
Tensed



Elbows
Flexed



Shoulders
& Traps
Flexed



Head Position

The last step of the start position is your head position. It helps support your upper back position, affecting how close your body can be to the barbell. Therefore, your balance, the force you generate, and the energy transferred into the barbell rely on your head positioning.

The standard in China is to lift the head about 45° from the floor because “the body follows the head.” This position makes it easier to push the chest out and extend the thoracic spine. This movement allows your midback muscles and rear deltoids to contract sufficiently to prevent the back from rounding.

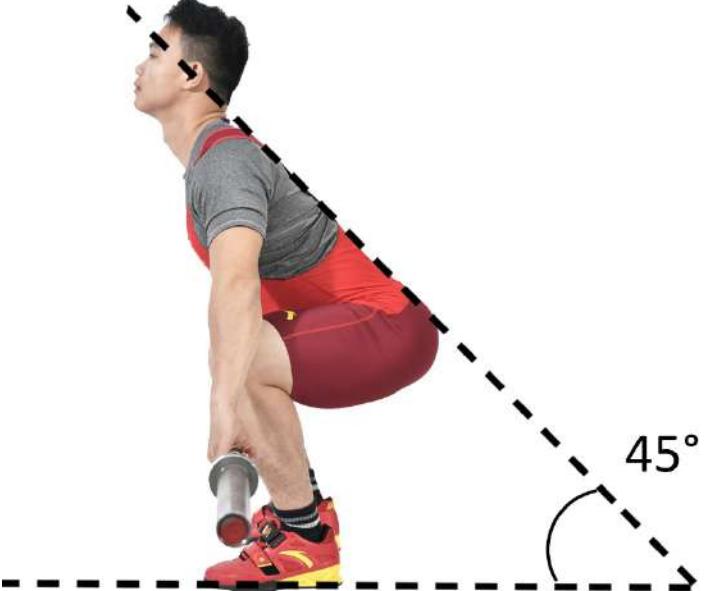
Fault:

Some athletes look up beyond 45° to contract their back muscles more and aim their lift more vertically. However, lifting your head excessively can maximize your thoracic extension but also introduce lumbar extension. This adjustment can remove tension from your abs and shift your balance backward, which violates the “close” principle.

Some athletes learn to keep their head neutral or tuck their chin to maintain a neutral spine. This head position can work for some hinge movements such as a “good mornings” or certain deadlift variations (such as Romanian deadlifts), but the snatch and clean do not rely solely on hinging the hips. You must continue lifting the barbell after the hips extend, so your torso must be properly positioned to guide the barbell upward. Tucking your chin can hinder torso extension because torso movements tend to follow head movements. Often, tucking the chin can relax your spinal erectors and cause your mid-back to round, violating the “close” principle.

Coaching Tips:

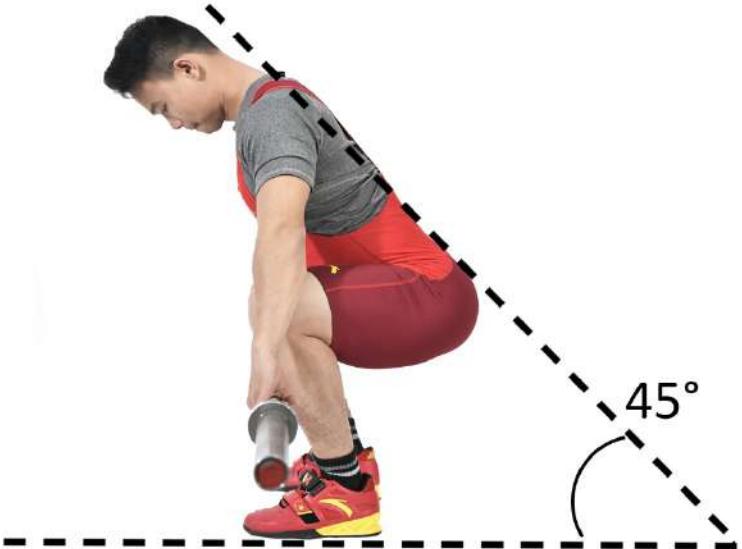
- Focus on a point ahead of you at 45° .
 - Place a piece of tape on your throat and keep it visible from the front.
- Keep your lower back straight as you lift your head.
 - Imagine sitting up tall.
- Arch through your thoracic spine.
 - If you have a shirt with a logo, focus on pointing the logo directly away from you.
 - Alternatively, attach a piece of tape in the middle of your sternum and focus on pushing it out in front of you.



Neck
Extended,
Eyes Angled 45°



Neck
Exetended
Excesively



Neck
Flexed



Deadlift Technique





Liftoff

The purpose of the deadlift is to place the barbell at the correct point of contact. A suboptimal deadlift reduces your power potential during the extension.

The standard in China is to lift the shoulders and hips together and smoothly. The glutes should contract to rotate the knees outward; the legs should push while the hips stay low; the chest should continue expanding, and the head remains up. This coordination keeps the athlete's center of gravity low, which maintains their balance more easily. These movements prevent your legs, hips, or shoulders from aligning vertically before the extension and from overloading the remaining body parts. Athletes should only lift as fast as they can maintain these criteria.

Fault:

Some athletes learn to push their knees back to initiate the lift or focus excessively on keeping their shoulders over the barbell. In both cases, their balance can shift backward and create a large gap between the barbell and their legs, which violates the "close" principle. This gap, combined with greater torso flexion, shifts the stress from the quadriceps and glutes to the hamstrings and lower back. It is possible to jump forward or backward depending on your back strength and backward momentum, but both movements are inefficient and violate the "stable" principle.

Other athletes perform the opposite movement: they use their hips, lower back, and shoulders aggressively but do not use their legs sufficiently. In this case, their shoulders move backward excessively, which shifts their balance backward. As this movement occurs, the barbell can hit or swing around the knees, which violates the "fast" principle. If the barbell moves away from the body, you create greater distance between the body and barbell, increasing the difficulty of the lift and violating the "close" principle.

Coaching Tips:

- Point your chest straight ahead as your push against the ground with your legs.
- Shift your balance forward until you can firmly grab the ground with your toes.
- Lift smoothly off the floor rather than aggressively or fast.
- Cue athletes to "push smoothly."
 - Push with your legs and lift your torso simultaneously:
 - Wrap a band across your sacrum and under the ball of your feet. If your shoulders move excessively, then the band slides off. If you use hips excessively, you will feel a lot of pressure from the band.
 - Have a partner press a PVC on your sacrum as you deadlift from the floor to the knee to prevent your hips from rising faster than your shoulders.



Chest and
Hips Move
Together



Hips Move
Excessively



Shoulders
Move
Excessively



Transition

This area around the knee is a transitional point for the barbell to gain speed naturally as your body straightens. It is a difficult part for athletes who want to rush through the lift and for athletes who do not feel confident in maintaining their position with heavy weights.

The standard in China is to allow the barbell to pass over the inside of the knee and VMO (vastus medialis oblique) muscle. To do this, athletes must keep their feet flat, push off the ball of the foot, and contract their glutes to maintain their knees externally rotated and aligned over the midline of the foot. This positioning keeps the barbell and body close to each other, and it allows the barbell to travel smoothly without colliding with the patella. Athletes should only move as quickly as they can maintain this position; the barbell will accelerate naturally as the body moves in a more mechanically advantageous position.

Fault:

The main fault is to pass the barbell over the top of the thighs, which usually occurs if you have a wide stance or an unstable foot in the start position. These issues can cause your knees to rotate inward and place your thighs between the barbell and your hips, violating the “close” principle.

Because some athletes in the West learn to push their knees back during the deadlift, they may revert to this muscle memory when they lift quickly or lift heavy weights. So, they must control their speed to lift smoothly and allow the barbell to pass along the inside of their knee.

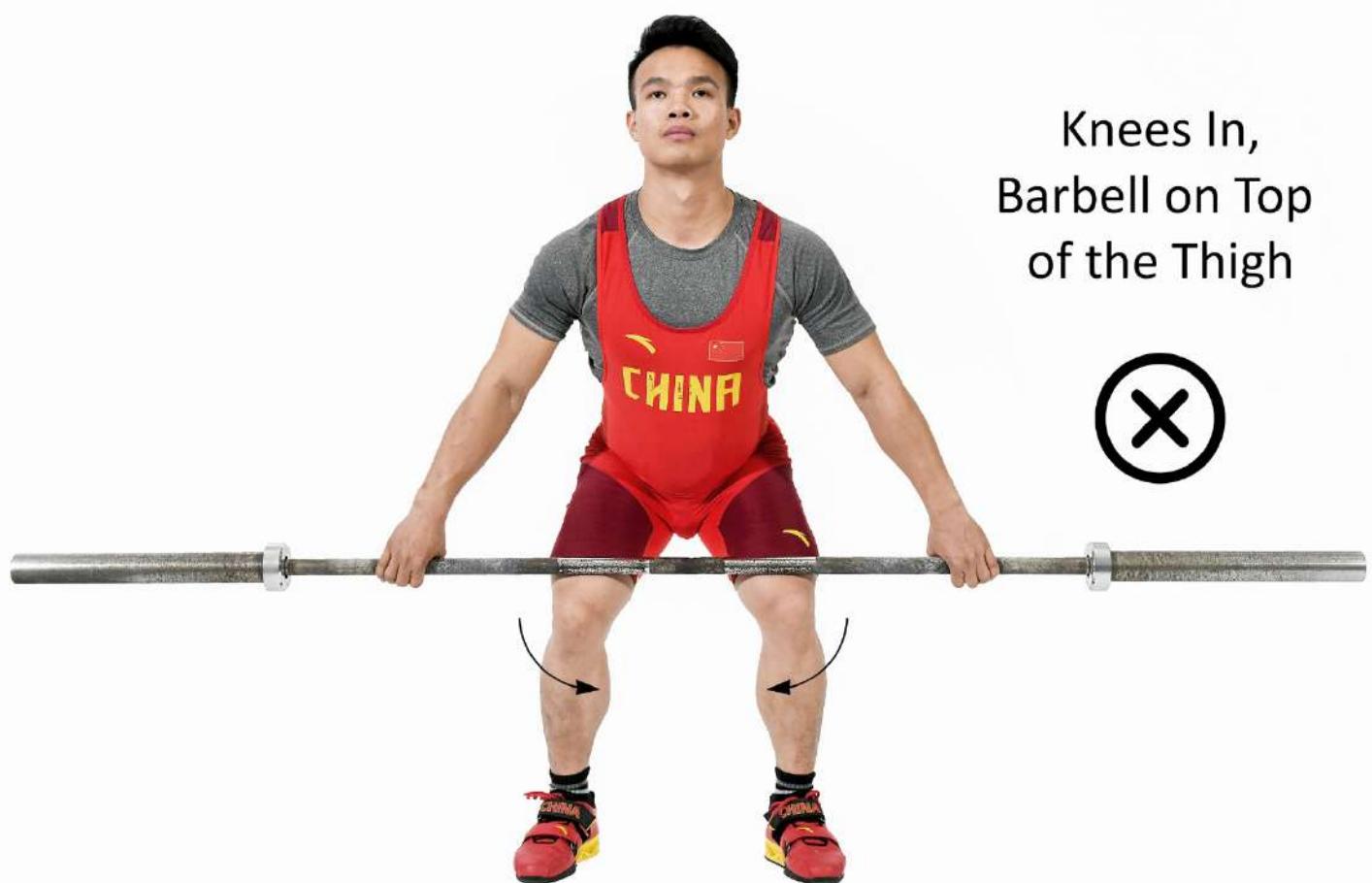
Coaching Tips:

- Push your knees out and imagine keeping your hips close to the barbell.
 - Alternatively, pause with a resistance band around your knees at this position to contract your glutes and rotate your knees outward.
 - Perform deadlifts above the knee with blocks to focus on getting into the proper position before lifting the barbell.
- Continue pressing all your toes into the ground and keep your foot flat.
 - Use unilateral exercises to build foot stability, such as:
 - Single-leg squats,
 - Lateral banded walks (at various heights).

Knees Out,
Barbell Inside
the Leg



Knees In,
Barbell on Top
of the Thigh



Above the Knee: Chest Position

While the deadlift should feel like one continuous movement, your legs dominate until the barbell passes your knees, and then your hips begin to dominate. Your pectoral muscles play a role in adjusting your upper body posture to keep your balance without disrupting the movement of the barbell.

The standard in China is to continue pushing the chest out actively as the barbell passes above the knee. This movement helps extend and retract the shoulder and maintain thoracic spinal extension, keeping the body close to the barbell. And because pushing the chest out is a forward movement, it helps maintain your foot pressure on the ball of the foot, which keeps the legs in a jumping position and eliminates the gap with the barbell.

Fault:

Beginners often forget about maintaining their chest position above the knee because their lower back and glutes are in a relatively strong position and can easily dominate the movement. However, if you do not use your chest correctly, you might have a gap between the barbell and your thighs, which violates the “close” principle. This gap increases the resistance of the barbell, forcing your entire back, glutes, and hamstrings to work harder to control the barbell and extend your body.

Some athletes are strong enough to pull the barbell towards the hip even with this gap, but the path is longer than if there were no gap. This pull creates backward momentum, causing you to jump and further lengthen the path for the barbell to travel overhead. If you cannot pull on the barbell, then it will pull you forward. At this point, you are performing a broad jump rather than a vertical jump, which makes it difficult to create enough height to secure the barbell overhead. In both cases, you violate the “stable” and “fast” principles because you must perform more work at a given weight and reduce the barbell’s acceleration.

Coaching Tips:

- If you have a logo on your shirt, use your chest to push the logo forward and continue expanding it.
 - Alternatively, place a piece of tape over the chest and try to stretch it.
 - Imagine the position above the knee as the preparation for a vertical jump.
- Perform deadlifts off blocks at knee-level height or slightly below and focus on contacting the barbell with your thighs through the entire movement.



No Gap between
the Body & Barbell



Gap Above
the Knee



Above the Knee: Arm Bend

Once the barbell passes your knees, your body can accelerate the barbell naturally. Like the loading phase of a vertical jump, the arms play a role in storing energy and generating upward momentum, helping direct the barbell and maximize its speed.

The standard in China, and most of the world, is to keep the arms stretched as the barbell passes the knee, similar to how the arms swing back when preparing to jump vertically. However, unlike a vertical jump, the arms cannot swing behind the body because the athlete is holding a barbell. Regardless, maintaining a slight stretch in the arms lengthens its muscles and creates tension, increasing their speed of contraction when you pull during the extension.

Fault:

Bending the arms can compensate for several issues. The first issue is improper balance during the start position. For example, if your balance is too far forward, then bending your arms is a solution to keep the barbell close.

Another issue is a lack of postural strength above the knee. For example, suppose you have insufficient torso rigidity. In that case, this will lower the location of the barbell and increase the distance it must travel; hence bending your arms is a way to overcome this problem.

The third issue is abruptly changing your speed above the knee instead of at the optimal contact point. Since your body is unprepared to maximize its vertical force, you will contract the muscles with the most muscle memory or which contract as a reflex. For example, if you contract your lats excessively and/or extend your lower back quickly, your arms will tense reflexively. Regardless of the cause, bending the arms before the extension violates the “fast” and “timing” principles because it lifts the barbell to a higher position before the rest of the body is prepared to extend, and it reduces the power of your extension.

Coaching Tips:

- Try incorporating these movements with straps:
 - Pauses above the knee during your deadlifts to build postural strength.
 - Lifts from the hang position to build postural strength.
 - Heavy lifts near the power position to build confidence in lifting the barbell without momentum.
- Imagine the snatch or clean as a deadlift + snatch/clean from the power position to build rhythm and patience.
- If you have trouble feeling if your arms are bend, place a strip of tape tightly along the elbow crease. If your arms bend, then you will feel the tape fold on itself.



Arms Relaxed
Above the Knee



Elbows Flexed
Above the Knee



Above the Knee: Head Position

As you prepare for the extension, your head position helps guide movement and posture. Therefore, it is essential to position your head to optimizes your vertical force.

The standard in China is to continue lifting the head about 45° during the extension. This movement helps preserve your balance and focus the body on moving upward. Additionally, it helps push the chest out, which helps contract the back muscles properly and extends the arms to place the barbell in its optimal location. Therefore, lifting the head helps reduce the resistance of the barbell and increases the ability to generate upward force.

Fault:

The main fault is lowering your head position, which can occur in several ways. The first way occurs if you change your position above the knee by leaning your torso back due to an overactive lower back. Some athletes in the West learn to shift their knees under the barbell actively, so they move their balance back to the heel and lower their head to look straight ahead. Another common fault is to stop pushing your chest out actively above the knee. Sometimes an athlete has a good start position but then loses their position above the knee.

Regardless, this fault creates a greater gap between your torso and the barbell, which violates the “close” principle and increases the barbell’s pull on your torso. This pull can round your upper back and protract your shoulders, making it challenging to keep your head up. This fault also lowers the location of the barbell on your thighs, which violates the “fast” principle and forces your body to lean back to lengthen your range of motion. Therefore, when you lower your head, your upper body must perform more work than necessary to lift the barbell to a given height.

Coaching Tips:

- Focus on a point 45° above your eye line throughout the lift.
 - Place a piece of tape on your throat and make sure it is visible from the front during your lift.
 - Imagine keeping your head above water throughout the lift.
- Place a piece of tape on your sternum and imagine pushing it away from you.
- Have a partner place a PVC under your chin as you deadlift, touching lightly. Perform a deadlift without resting your chin on the PVC.



Head Up,
Chest Open



Head Down,
Chest Caved



Contact Point

The contact point is where you exert explosive force, and the location determines how much power can transfer into the barbell. Once you arrive at this point, you must coordinate your upper and lower body to extend, so you must arrive at a point that optimizes the work performed by the upper and lower body.

The standard in China is to reach the highest point possible while maintaining a jumping position. Due to different grips, the contact point for the snatch is usually at the hip crease, and the contact point for the clean is about 5 – 10 cm below the hip crease. These points allocate most of the work to the lower body, which allows the athlete to produce vertical force. They also shorten the pulling distance from the upper body, helping the athlete pull quickly and transfer maximal vertical force into the barbell.

Fault:

The main fault for the snatch or clean occurs when you contact below the optimal points, which happens if you shift your balance backward or forward, usually in anticipation to force a collision with the barbell. Regardless, a low contact point makes your upper body pull too early and limit your lower body extension. And your upper body must perform more work to reach the optimal extension height. However, since your upper body is weaker than your lower body, this movement is inefficient even if you can pull to the optimal extension height. Therefore, a low contact point violates the “fast” principle because it reduces the force you can transfer into the barbell, reduce the barbell’s speed, prolong the time of your pull, and reduce the time available to catch the barbell.

Some athletes have very long arms and have lower contact points since the length of the barbell shaft limits their snatch grip. Their ability to catch the barbell in a front squat also lowers their contact point for the clean. Sometimes, these athletes compensate by maintaining their arms bent during the entire deadlift. While this movement reduces the transfer of force through the arms, it also increases the transfer of force from the hips since the barbell can reach the optimal contact points. For these athletes, this is an acceptable tradeoff.

Coaching Tips:

- To find your contact point, simply stand up straight with a PVC or empty barbell, using a snatch grip or clean grip. Note the spot where the barbell touches.



Point of
Contact for
Snatch:
Hip Crease



Point of
Contact for
Clean: 5 - 10cm
Below Hip Crease



Low Contact
Point



Power Position

As you reach the contact point, you must arrive at the power position, which is the position that allows you to use the upper body and lower body simultaneously to produce maximal vertical force for the extension.

The standard in China is to arrive at the contact point in a natural jumping position: legs slightly bent, torso slightly flexed, chest out, and balance forward to push forcefully from the ball of the foot. This position allows the athlete to produce and transfer maximal vertical force into the barbell in the shortest time.

Fault:

The first mistake occurs when you extend legs extend excessively and your torso does not extend to the same degree. Usually, this happens when beginners focus too much on staying over the barbell; however, the only movement possible once you reach the contact point is to extend your lower back over a long range of motion. This extension places excessive stress on your lower back and results in a lot of backward momentum that is difficult to stop. Because you must lean back during the extension, you limit your ability to produce vertical force and violate the “fast” principle.

The next fault occurs when the torso extends early while the knees remain flexed, which violates the “close” principle and results in two types of compensation. In the first case, the athlete extends their torso until their shoulders are behind their heels to bring the barbell closer to the contact point. However, their knees must move forward, and their heels often rise to avoid falling backward. The relative dominance between leaning back and pushing the knees forward determines whether the athlete jumps forward or backward. In either case, if the heels lift early, then they cannot assist during the extension and can violate the “fast” principle.

Some athletes can keep their heels on the ground as their knees move forward; however, they compensate by pulling early with their arms to bring the barbell closer to the contact point. This compensation reduces the intensity of the extension by limiting the transfer of force through the arms, which violates the “fast” principle.

Coaching Tips:

- To find your power position:
 - Stand up straight with a PVC or empty barbell, using a snatch grip or clean grip.
 - Keep the PVC in contact with your body with straight arms, then bend forward as if you are going to jump vertically.



Legs
Excessively
Extended

Knees
too far
Forward

Torso
too Erect,
Arms Bent

Proper
Power
Position



Snatch





Snatch Grip

Your grip influences your start position, your contact point for the extension, and how you catch the barbell. Therefore, it is necessary to use a grip that optimizes these three positions.

The standard in China is to use a grip that places the barbell over the hip crease while maintaining straight arms. For most athletes, this grip is wide enough to achieve an optimal start position, transfer the full energy of their hips into the barbell, and perform a stable overhead squat during the catch.

Fault:

If the barbell is above your hip crease, then your grip is too wide. During the extension, the barbell will contact your abdomen, which is not powerful, and the impact can affect your breathing and core stability. Contacting at this height is too late to maximize your vertical force, which violates the “timing” principle.

A wide grip is difficult to load because the tension in your hands and arms increases as your grip widens. It becomes easy to compensate by bending the arms or tensing the forearms, which slows down the pull during the extension and violates the “fast” principle. Finally, a wider grip requires your torso to bend over a greater degree to grab the bar, which means your lower back must perform more work to keep your torso rigid and straighten it.

Some athletes grip the barbell more narrowly because it feels more secure in their hands than a standard snatch grip and positions their torso more upright, which reduces stress on the back muscles. However, a narrow grip violates the “timing” principle by lowering your contact point and lengthening the distance needed to lift the barbell overhead. The result is your upper body must perform more work to pull the barbell overhead rather than your legs and hips (which are more powerful). Therefore, the weight you can use for the snatch decreases with an excessively wide or narrow grip.

Coaching Tips:

- Place the barbell over the hip crease and then slide your hands outward until your arms are straight.
- Stand tall with your chest pushed out and shoulders relaxed.
- Use a hook grip.

Standard



Too wide



Too Narrow



Extension: Lower Body Coordination

Your lower body is the main source of power for the extension. A proper lower body extension maximizes the barbell's upward speed and acceleration so you can create enough space and time to catch it in an overhead squat position and as close to its apex as possible.

The standard in China is to use the ankles, knees, hips, elbows, and shoulders to extend the whole body and maximize the athlete's vertical force. When the barbell reaches the hip crease, the legs push through the ground to extend the knees and hips simultaneously while maintaining the athlete's foot pressure on the ball of the foot. Immediately afterward, the ankles plantarflex as the athlete continues pushing through the ground.

Fault:

There are several types of faults, all of which violate the "fast" principle. The first type occurs if you lack ankle plantarflexion or do not maintain this action long enough for the barbell to reach its optimum height. This incomplete movement reduces the intensity of the pull because your body does not push sufficiently to maximize your vertical force.

Another common fault occurs if you rush to use your upper body before completing the extension of your legs and hips. In this case, you cannot push against the ground, and your lower body cannot transfer force through the body. This incomplete ankle and hip extension increases the demand on your upper body and reduces the intensity of the pull and the barbell's acceleration.

The final common fault occurs when you extend your knees but not your hips. This incomplete hip extension happens if you plantarflex your ankles excessively or overcompensate to avoid leaning back. This incomplete extension reduces your vertical force and increases the distance between the barbell and the body, which increases the stress on the back muscles. And it is possible to slide backward since your hips cannot counter the force from your knees.

Coaching Tips:

- Keep your balance on the ball of the foot.
 - Use a piece of tape on the ground, align the ball of your foot to it, and then extend while staying on the line.
 - Imagine the extension as performing a vertical jump without leaving the ground.
- Pause at the top of the pull to test whether you can hold your balance.
- Improve your lower body coordination and strengthen your leg extension with:
 - Standing calf raises with an explosive concentric,
 - Kettlebell high pulls,
 - Leg press at 45° or 90°.



Full
Extension



Incomplete
Ankle
Extension



Incomplete
Ankle and Hip
Extension



Incomplete
Hip
Extension

Extension: Upper Body Coordination

Your upper body increases the intensity of the extension and guides the barbell overhead. A well-coordinated upper body movement continues to transfer energy from the legs and through the torso to accelerate the barbell.

The standard in China is to elevate the elbows and shoulders as the ankles plantarflex. This elevation requires the upper trapezius, lateral deltoids, and biceps to lift the barbell after the legs extend. However, these movements should feel as one simultaneous motion to the athlete that occurs with the leg extension. The abs and back muscles hold the torso in a rigid position to transfer the force from legs and hips, and the forearms should stay relaxed during the extension.

Fault:

One of the major faults in the upper body is to hyperextend your torso rather than stabilize with the core and back muscles. This hyperextension shifts your balance backward and reduces your vertical force because it can limit your ability to plantarflex your ankle or straighten your legs. Hyperextending your torso violates the “close” principle because it increases your distance between the barbell and increases the stress on your lower back, shoulder joint, and wrists. Depending on your strength and the weight of the barbell, it is possible to jump backward or forwards after this extension, which is inefficient and can violate the “stable” principle.

Sometimes, beginners do not use their upper body to elevate the barbell after extending their legs because their arms and shoulders are tense. In this case, your arms produce a downward force against the barbell’s upward momentum, which violates the “fast” principle. And the barbell has no place to travel except away from the body, which violates the “close” principle by creating a large arc and decreases the height the barbell can achieve. This arc pulls on the shoulder joint along with the neck and midback muscles. Usually, the athlete must jump forward to catch the barbell, which violates the “stable” principle.

Coaching Tips:

- Perform snatch pulls from your hip crease to build your coordination.
 - You can use blocks or perform from a hang position at this height.
- Get in your start position, then have a partner place a stick vertically and lightly touching the end of the barbell. Your goal is to pull vertically to avoid hitting the stick.
- Pause at the power position of your deadlift to ensure you are extending from the correct position.



Body and Bar
are Close to
Each Other



Body Leans
Away from
the Bar



Bar Moves
Away from
the Body



Extension: Head & Chest Position

The barbell must be close to your body, and your body must be close to the barbell to maintain balance and continue generating upward force. Your head and chest position are essential components in achieving these goals

The standard in China is to push the chest out and maintain the head up about 45° during the extension. This movement preserves extension in the thoracic spine and naturally contracts your rear deltoids and back muscles to prevent the barbell from drifting away from the body. Keeping the barbell close reduces its resistance and accelerates it through the entire extension.

Fault:

The main fault is letting your head drift forward or downward during the extension. Some athletes learn to tuck their chin from deadlifting in a powerlifting style. Other athletes do not internally rotate their shoulders through the full range of motion, so they compensate by flexing their neck and protracting their shoulders. However, these movements flex the thoracic spine and move the torso away from the barbell, violating the “close” principle. This position increases the horizontal distance the barbell must travel to reach overhead and, depending on the barbell’s speed, it is possible to hit your forehead with the barbell. Rounding your upper back also violates the “fast” principle because it softens your torso and reduces its ability to transfer vertical force into the barbell, reducing its speed and height.

Coaching Tips:

- Keep your head up and chest out as if you are trying to keep your head above water.
 - Place a piece of tape over your throat and keep it visible from the front throughout the extension.
- Alternatively, you can place a piece of tape on your hip and another piece over your diaphragm. During the extension, focus on lengthening the distance between these pieces while still pointing them straight ahead.
- Pause at the top of the pull to evaluate if you have a gap with the barbell.
- Perform snatch-grip upright rows to the chest and focus on maintaining your head position.
 - Once you feel comfortable, combine this movement with an explosive calf raise. Focus on finishing the plantarflexion and the upright simultaneously.



Head Up,
Chest out



Head Down,
Chest Caved



Extension: Height for Snatch Pull

The high pull lifts the barbell to a height where you can catch the barbell as close to its apex as possible in an overhead squat position. Pulling to this height reduces the stress on the body during the catch and enhance stability.

The standard in China is to use your upper and lower body together, in one fluid motion, to lift the barbell to the bottom of the chest. This height is the maximum the athlete can pull vertically and maintain their position. It is also the minimum height that enables athletes to catch the most weight in the lowest overhead squat position.

Fault:

The first fault is to pull too low, which occurs when athletes rush to drop under the barbell, or the weight is too heavy. Regardless, this height does not maximize the body's potential because the trapezius and lateral deltoids can still apply vertical force to lift the barbell higher. Most athletes will not have the flexibility, mobility, or time to catch the barbell from an extended position. Additionally, catching the barbell from a low height can be stressful on the joints because they must absorb the downward force of the barbell when it does not have enough upward momentum.

A common fault among beginners is to pull the barbell too high. This fault occurs due to balance problems in the deadlift, lack of coordination during the extension, or waiting too long to begin transitioning under the barbell. Regardless, an excessively high pull violates the "timing" principle because it reduces the time available to get under the barbell in a low overhead squat position. Therefore, most athletes will catch the barbell in a quarter squat or half squat and lower themselves, requiring more work.

Coaching Tips:

- Go to a squat rack, stand up straight, plantarflex your ankles, and measure your chest height.
 - Set the hooks and place a stick/PVC at this height.
 - Set up your barbell perpendicular to the rack and perform a snatch pull. The end of your barbell should only contact the PVC lightly if you are pulling correctly.
- Alternatively, have a partner hold a PVC at the height of your high pull, then aim lightly touch the PVC.
- Keep your wrists relaxed. Use straps if necessary.



Chest Height



Too Low



Too High



Extension: Elbow Position

The elbows help aim the direction of the barbell as it transitions overhead. With proper positioning, you can continue increasing the speed of the barbell and reach a greater height, which creates more room to catch the barbell overhead.

The standard in China is to lift the elbows vertically and in line with the torso. This position keeps the barbell close to the body and minimizes its arc, maximizing its height. Athletes must maintain their chest out and perform this movement.

Fault:

The most common fault is to rotate your elbows backward, which restricts your ability to internally rotate and elevate the shoulder. This restriction can occur by 1) tensing your forearm flexors during the extension, 2) tilting your shoulder backward by hyperextending your torso, 3) maintaining a retracted posture, or 4) if you lack internal rotation in your shoulder.

This position shifts the stress from your upper trapezius and lateral deltoids to the (relatively weaker) forearm extensors and wrists, limiting your ability to lift the barbell forcefully. Your back muscles must also retract rather than stabilize the torso, which can cause the barbell to collide with your ribs or chest and violate the “fast” principle.

Coaching Tips:

- Stand up straight, forearms relaxed, and point your elbows towards the ceiling.
 - Use straps to assist in relaxing your forearms.
- Face sideways towards a mirror, then perform snatch pull with a pause at the chest to assess and adjust your elbow position.
- Perform a slow-motion snatch to focus on keeping the bar close through the pull.
- Perform snatch-grip upright rows to focus only on upper body coordination.



Elbows Up,
Pulling with
Traps and Deltoids



Elbows Back,
Pulling with
Wrists



Pulling Under the Bar

The transition under the barbell is a fluid continuation of the extension. It is an active movement where the body squats under the barbell as the arms, shoulders, and upper trapezius continuing elevating the barbell overhead.

The standard in China is to actively dorsiflex the ankles to slide the feet downward and laterally after the extension. As the slide occurs, the arms, shoulders, and upper trapezius continuing elevating the barbell. Once the barbell passes the chest, the wrist pulls onto the barbell, and the triceps extend the arm. This sequence allows the legs to release pressure temporarily against the floor and move laterally. Overall, sliding is the quickest way to bring the heels to the ground from a plantarflexed position and actively allow the hips and knees to assist the upper body in pulling under the barbell.

Fault:

Because the transition requires coordination of the upper and lower body, there are many possible faults. Some athletes violate the “fast” principle by not continuing to pull with their upper body after extension. This lack of pull reduces their upward force on the barbell and the height it can achieve, which means it will change direction sooner and gain significant downward momentum during the catch. Overcoming this momentum can place excess stress on the elbows, shoulders, hips, and knees.

Many athletes in the West learn to adjust the feet laterally as they produce upward force rather than as they change direction, which can result in jumping off the ground as the barbell elevates. Jumping lengthens the time in the air where the body cannot apply force. Therefore, you must wait until you land on the ground before you can pull on the barbell and perform a squat. This delay violates the “timing” principle and can prevent you from catching the barbell.

Coaching Tips:

- From the start position, imagine jumping into the catch position.
- Try to finish the slide and pull simultaneously.
- After the extension, imagine bringing your heels down as if you were creating a splash in a puddle of water.
- Go to a squat rack, stand up straight, plantarflex your ankles, and measure your chest height. Set the pins at this height and place a stick/PVC on the squat rack.
 - Set up your barbell perpendicular to the rack and perform a snatch speed pull (panda pull). The end of your barbell should only contact the PVC lightly, and the barbell should reach your clavicle.



Pulling Under
the Barbell

Catch: Internal Rotation Overhead

The overhead position determines the location of the barbell overhead, which affects your balance and stability, and determines how much weight you can support.

The arms are internally rotated during the pull, and the standard in China is to maintain this internal rotation force as the barbell passes overhead. After the bar reaches chest height, the athlete should continue pulling straight up rather than backward. The shoulder begins to externally rotate, but exerting an internal rotation force stops this movement and the barbell's backward momentum and aligns it directly over the midfoot in a squat position. Internally rotating the arms creates a strong base of support by allowing the back muscles to absorb the stress of the barbell and introducing torque within the elbow and wrist to prevent them from bending.

Fault:

When the barbell passes overhead, your shoulder joint must externally rotate to create space to continue raising the humerus. However, many Western athletes allow their arms to follow the momentum of the barbell instead of actively stopping it. The barbell will usually stop behind the body, sometimes behind the heel, but this violates the “close” principle and places excessive stress on the shoulders and biceps.

Another fault in the West is to look upward during the catch. Raising your head makes it challenging to place the bar behind your head since it is easy to fall backward. Additionally, it prevents your shoulders from retracting and your back muscles from contracting, which loads your shoulders instead of your back. Also, your arms cannot internally rotate in this position, so your elbows align the line of force from the barbell. At heavy weights, your elbow will bend easily, which places unnecessary stress on the forearms and biceps.

Coaching Tips:

- Point your elbows behind you and squeeze your shoulder blades together as if you are trying to hold a pen placed vertically with your midback.
- Tuck your chin after the barbell passes your face.
- Do not let your shoulder protrude forward. Instead, imagine twisting your arm forward like a key within a lock.
- Strengthen your overhead rotation by holding a dumbbell or PVC overhead and practice rotating the entire arm clockwise and counterclockwise.



Arms Internally
Rotated, Head
Down



Arms Externally
Rotated, Head
Up



Catch: Wrist Position

Another aspect of the overhead position is the wrist position, which plays a role in determining the location of the barbell overhead. Therefore, your wrists affect your balance and stability, and they influence how much weight you can support comfortably.

The standard in China is to extend the wrist and supinate the forearm while maintaining internal rotation of the elbow. This movement creates external torque in the wrist, which counters the internal torque of the elbow to provide stability and support overhead. These torques lock the wrist so the barbell can rest on the base of the wrist, which provides a stable shelf where the athlete can push comfortably and forcefully.

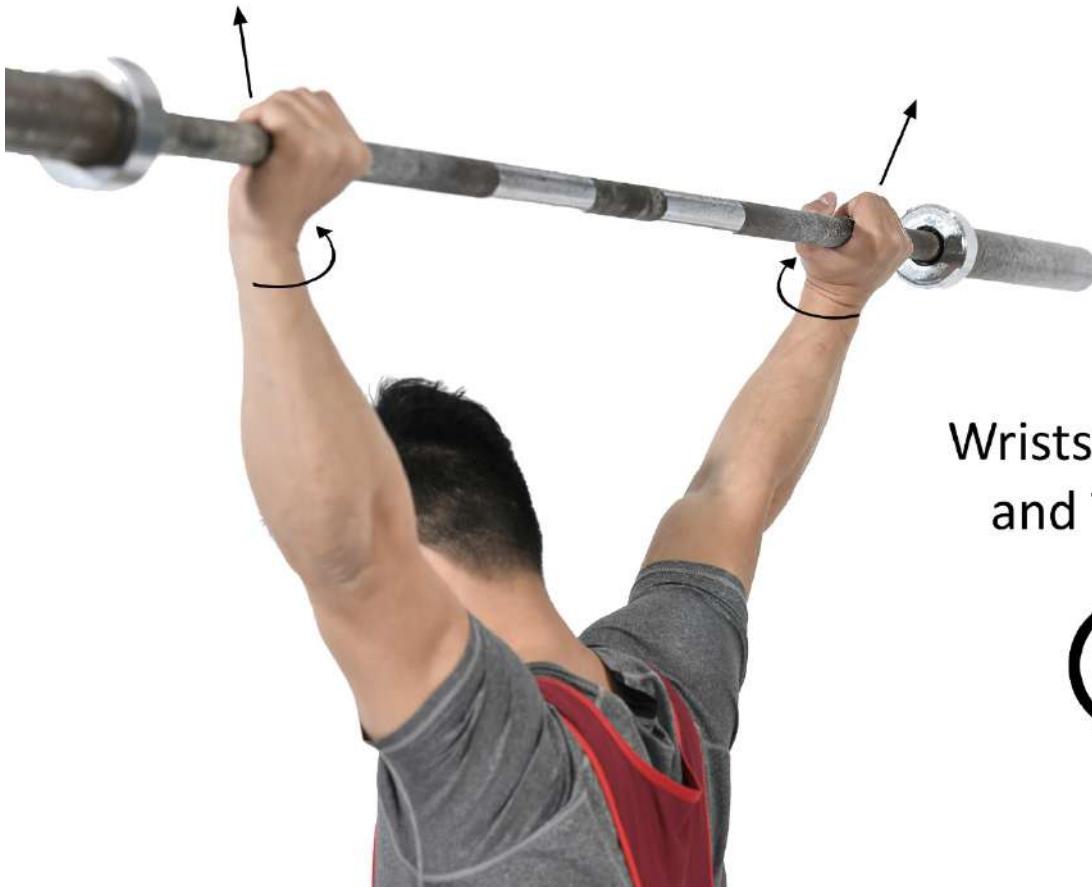
Fault:

The most common fault is to extend the wrists without creating torque, which places the barbell in your palm rather than the base of your wrist. This placement stretches your wrist and imposes greater stress from the barbell, limiting the weight you can support comfortably overhead. In a proper overhead position, the barbell aligns with your arm, shoulder, and hip; however, without wrist torque, the barbell moves away from this alignment and violates the “close” principle.

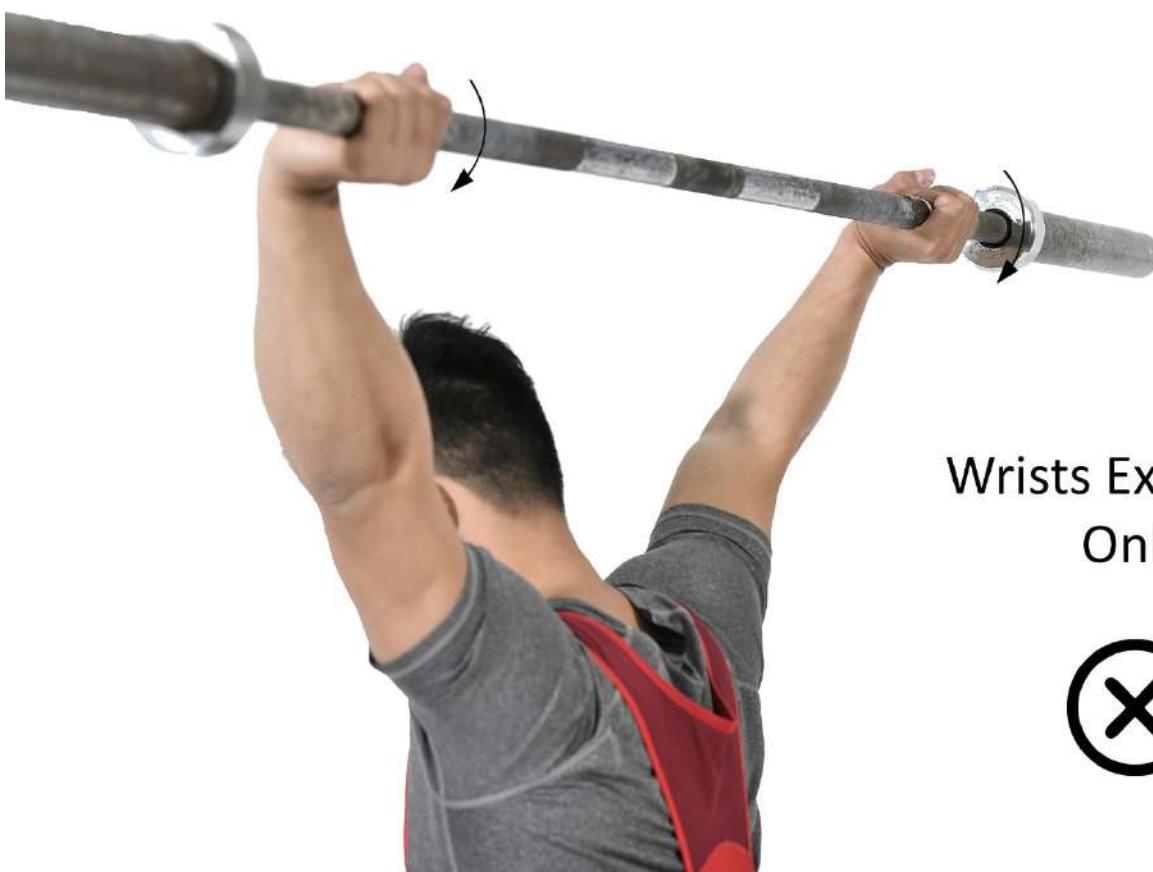
A less common issue is to catch the bar with the wrists in a neutral position. Although the barbell can be in proper alignment, this position is unstable because the wrist can move forward or backward very easily. Some athletes in the West learn this fault, but others perform it when they tense their forearms and, as a result, cannot extend their wrists quickly.

Coaching Tips:

- You can find this position by lifting your arm overhead and turning your hand, so your thumb points towards you. From here, turn the hands away from your body so that the base of your thumbs towards the ceiling.
- Imagine pushing your wrists towards the ceiling.
- Alternatively, imagine pushing two walls away from you.



Wrists Extended
and Torqued



Wrists Extended
Only



Catch: Power Snatch

The power snatch is a technical progression for the snatch and a movement for developing power due to its lighter loads and faster speed. It also transfers to the squat jerk due to its overhead position. However, because of the limited squatting motion, the catch between power snatch and full snatch can differ.

The standard in China is to flex the knees and hips simultaneously with the barbell balanced over the midfoot. This position aligns the wrist, elbows, and shoulders over the midfoot, maximizing the support against the barbell.

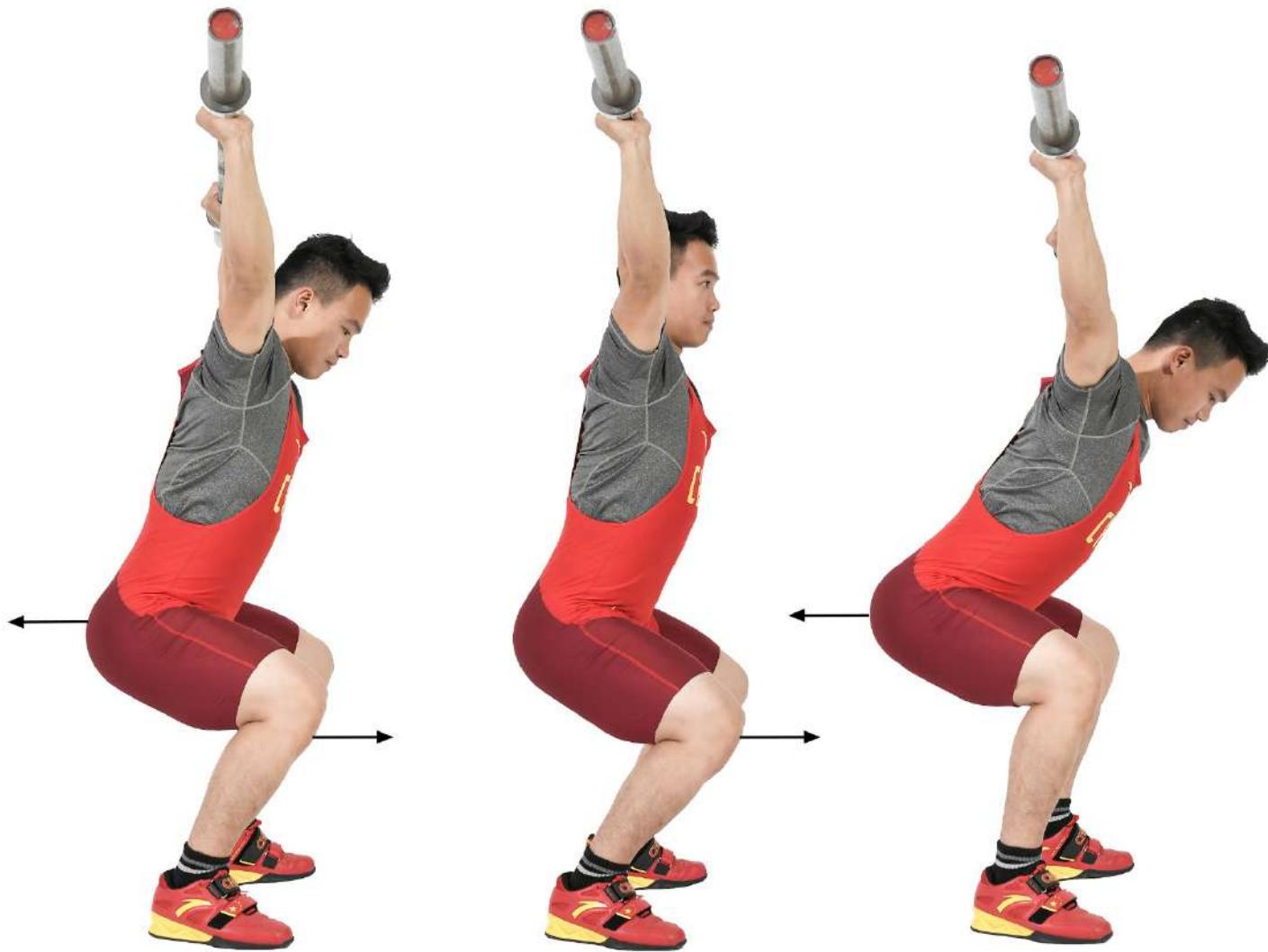
Fault:

The first fault occurs when your knees bend without enough hip flexion to counterbalance. Usually, beginners perform this movement when they extend too long and pull the barbell too high, making small barbell movements more impactful on their balance and position. Since the barbell is almost completely overhead, your torso must stay vertical to prevent the barbell from moving further backward. So, the only way to get under the barbell and counter its backward force is to flex the knees. But this flexion places tremendous stress on your knees and can cause you to run forward during the recovery.

Another common fault is to flex your hips without enough knee flexion to counterbalance. Usually, this happens if the barbell does not obtain enough height to catch in a quarter squat. So, this compensation usually occurs when the weight is too heavy or if the extension is faulty. In the West, some athletes learn to sit back rather than sit down when they catch. Regardless of the cause, most athletes can maintain their balance by pushing their humerus forward, which allows their arm to support the barbell in a diagonal position but balanced over the midfoot. However, this compensation places the shoulder in a vulnerable position and can lead to shoulder impingement. It is also a dangerous position if you must drop the barbell because it will take longer for you to get out of the barbell's way.

Coaching Tips:

- Use snatch pull + power snatch combo to build consistency in your pull.
- Pause during your catch to adjust yourself into a more upright position.
- Perform the following movements to build muscle memory in an upright position:
 - Snatch presses behind the neck at quarter squat height,
 - Partial overhead squats,
 - Drop snatch to quarter squat height.



Knees
and Hips
Flexed



Mainly
Knees
Flexed



Mainly
Hips
Flexed



Catch: Head Position

Your head position determines your balance, which influences your body position and barbell location, both of which affect muscular contraction when supporting weight overhead.

The standard in China is to lower the head down to about 45° when supporting the barbell overhead. This position brings the head forward slightly and requires the barbell to move backward. This movement not only makes it easier to align the barbell over the midfoot during a squat, but it helps the athlete retract their back muscles to support the weight.

Fault:

In the West, some athletes look up as they catch to keep the torso extended or push against the barbell. Some athletes learn this habit, but others use this head position to compensate for difficulty keeping the chest up. But lifting your head shifts your balance backward and can place your neck and parts of your spine near the end of their range of motion, which can overload the vertebrae. Additionally, lifting your head can rotate your shoulder blade downward, limiting your ability to raise your arms overhead. So, this position places the barbell in front and the support on your shoulders, violating the “close” principle.

Sometimes, in China, an athlete will push their head forward to guarantee that the barbell is behind their head. However, this movement violates the “close” and “stable” principles because it can shift their balance excessively forward because their torso flexion is more limited than during the power snatch. In the West, some athletes think about maintaining upward pressure on the barbell, so they elevate their shoulders and upper trapezius against the barbell. However, this movement can move the humerus upward and forward. Whether the athlete pushes their head forward or tries to push against the barbell, the shoulder position is similar and can result in impingement. It is easy to round the thoracic and lumbar spine as the cervical spine flexes when you push your head forward.

Coaching Tips:

- Place a piece of tape on the ground about 1m away from you. Finish your catch and look at the tape simultaneously.
- Implement the following movements at different squat heights to build your motor control and position your head down at 45°:
 - Snatch presses behind the neck,
 - Overhead squats,
 - Drop snatch.



Head
Down



Head
Up



Head
Forward



Catch: Overhead Squat Balance

To catch the most weight during the snatch, with the least stress on the joints, requires a stable and low overhead squat position.

The standard in China is to align the wrists, elbows, and shoulders while keeping the hips as close as possible to the ankles. This alignment maximizes the support against the barbell and places the load on the quadriceps, glutes, and midback muscles. This position also aligns the barbell over the midfoot, enhancing stability by maximizing the athlete's connection with the ground.

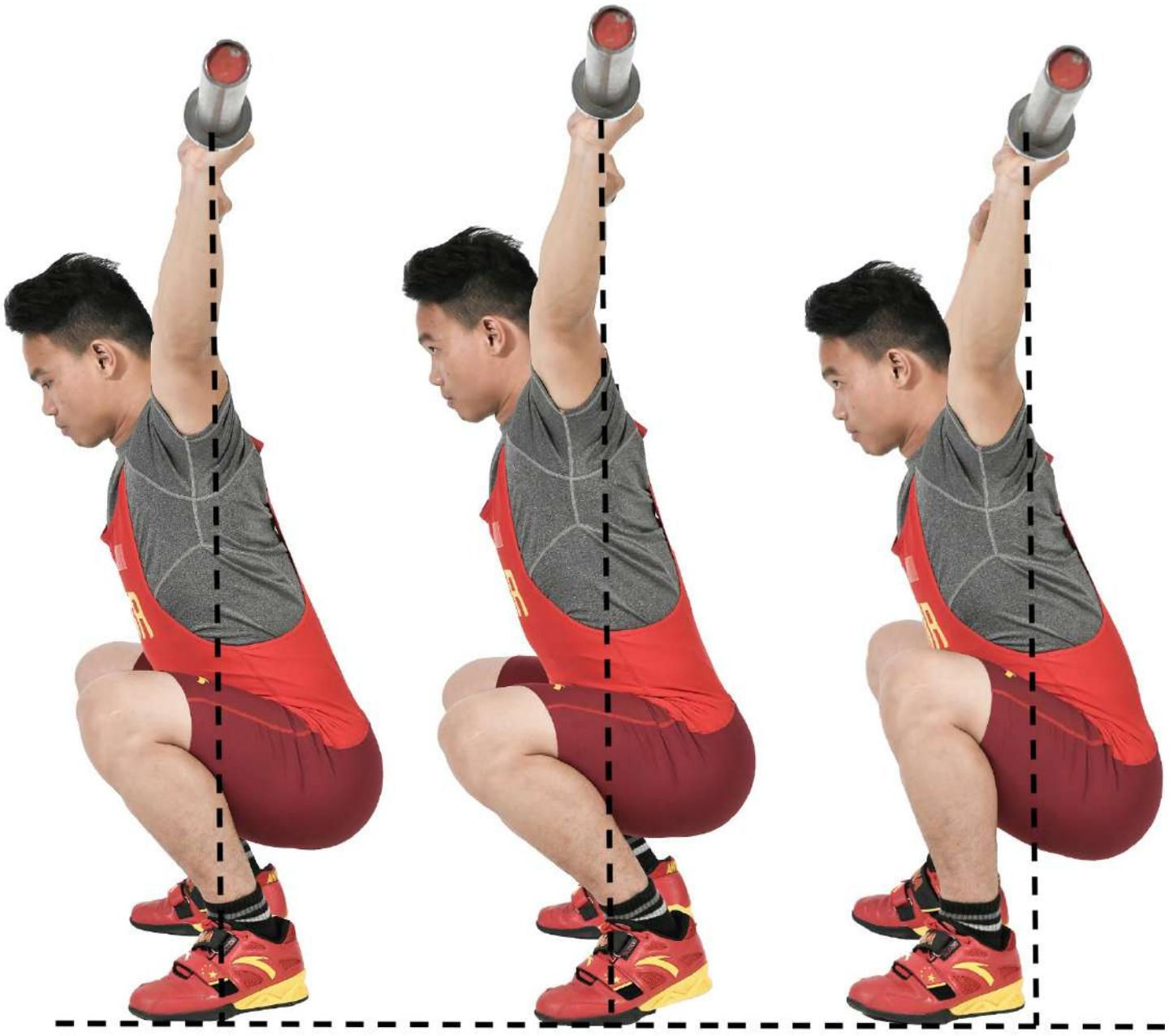
Fault:

If your balance is near the ball of the foot or toes, your knees will travel forward and possibly lift your heels off the ground. To avoid falling forward, most athletes lean back to straighten their torso and bring their hips closer to the barbell, but this entire movement reduces the size of your base and violates the "stable" principle. This position can result in catching the barbell in front due to an improper pull, forcing the body to move forward to get under the barbell. Additionally, if you only flex your knees during the transition (instead of simultaneously with the hips), your body will move forward and your heels will lift. This shift makes the recovery difficult and causes you to run forward with the barbell, which places a lot of horizontal stress on your elbow and shoulders.

You will have similar problems if you shift your balance excessively backward. If your hips push back without pushing the knees forward, then you will catch with your balance your heels. This shift can lift your toes from the ground, reducing the size of your base and your stability. You might lean forward to avoid falling backward, but this increases the stress on the lower back during the recovery and on your shoulder joint since it will no longer align with the barbell. Athletes usually achieve this position if they have movement restrictions such as stiff ankles or a narrow stance, or to compensate for leaning back excessively during the extension.

Coaching Tips:

- For motor control, try performing overhead squat variations to the depths where you begin to lose balance, such as:
 - On to a box,
 - With pauses,
 - Assisted by tying a band against a squat rack, stepping inside the loop, and then walking back until you have enough tension to support your squat,
- Additionally, implement snatch grip presses and drop snatches to the depths where you begin to lose balance.



Balanced
Catch Over
Midfoot



Catching
on the
Toes



Catching
on the
Heels



Catch: Lower Back Tension

The lower back transfers force from the legs to the barbell. It also affects the position of the torso, which influences your balance and stability.

The standard in China, and the rest of the world, is to maintain the most upright posture while balancing the barbell over the midfoot. This position minimizes the backward momentum created as the barbell moves overhead, and it shifts stress from the lower back to the legs and hips. An upright position transfers force from the legs through the torso more effectively to minimize horizontal movement during the recovery.

Fault:

Some athletes maintain their balance over the midfoot but flex their lower back because their pelvis naturally tilts posteriorly as their hip reaches its end range of motion, but the squat is still low and stable. However, an unbalanced squat and/or excessive lumbar flexion can result in a missed lift.

There are many ways you can achieve this rounded position. The first way is through an improper pull or overhead position. If the barbell has too much backward momentum, then you will shift your balance towards your heels and move your torso forward to counterbalance.

Another way is through restrictions in ankle dorsiflexion. Any of these issues can prevent your knee from traveling forward and keeping your balance over the midfoot. An excessively narrow squat stance will place your thighs in the way of the torso and cause it to bend. Finally, insufficient abdominal tension can limit your ability to maintain an upright posture and resist the barbell, causing your torso to collapse.

Coaching Tips:

- Incorporate snatch pulls with and without pause at the chest to increase the accuracy of your extension.
- Strengthen your anterior shin muscles with:
 - Split-squats with the front foot elevated on a box,
 - Narrow stance squats,
 - Step-ups to a high box.
- Incorporate overhead squat variations to the depth where your lower back begins to round:
 - Partial squats,
 - Box squats,
 - Squats with hanging weights.
 - Also, perform behind the neck snatch press at this depth.



Tight
Back



Rounded
Back



Catch: Overhead Squat Width

Many athletes can pull the barbell to a sufficient height, but fewer can catch the barbell. The width of your squat determines the depth and stability of your catch position, and it determines how high you must lift the barbell.

The standard in China is to catch the barbell using the same stance used for a back squat, which is about shoulder-width for most athletes. This stance is the strongest for utilizing leg strength to support and lift a weight. And it allows the body to lower into the lowest position possible, which increases stability and reduces the need to pull the barbell excessively high.

Fault:

For most athletes, their deadlift stance is narrower than their squat stance. If you do not adjust your feet after the extension, then your thighs will get in the way of your torso as you lower into a squat. This narrow stance limits your ability to catch deep with a tight lower back, so some athletes compensate by catching the barbell higher. However, a higher catch requires you to pull the barbell higher, which violates the “low” principle and is more work.

Another common issue among beginners is catching the barbell in a wider stance than their standard squat. This stance can result from a lack of strength, mobility, or coordination to perform a deep squat. Athletes also squat wide if they pull the barbell too high because they will not have enough time to drop under the barbell. In both cases, the catch position is higher than a deep squat, which violates the “low” principle.

Coaching Tips:

- Incorporate power snatch + overhead squat to reinforce your squat stance.
 - If you feel more comfortable catching in a different stance than your overhead squat, then consider training your overhead squat in the same stance as your snatch.
 - If you do not feel comfortable changing your squat stance, then place two mats parallel along the lateral side of your feet using the same width as your squat, and stay within these lines as you receive the bar during the snatch.
- Perform snatch turnovers using this setup to focus on coordinating your pull under and footwork.



Optimal
Catch

Narrow
Catch

Wide
Catch



Catch: Knee Alignment

The instability of the barbell is high during the overhead squat, so small movements forward or backward can make you drop the barbell. Your knee alignment heavily influences the stress on muscles, tendons, or ligaments, which determine your balance and stability.

The standard in China is to turn the feet outward and align them with the knees to push through the midline of your foot. The exact angle depends on the hip structure and ankle mobility of the athlete. For example, some athletes are very mobile and flexible. They can internally rotate their femur, so it appears their knees are caving inward; however, this is not a fault but rather a result of genetics.

Fault:

Rotating your knees out past the lateral edges of the feet is a common error in the West. Some athletes perform this movement to achieve a lower squat position, but it might compensate for limited ankle mobility or hip mobility. Excessive knee external rotation can violate the “low” principle by reducing the depth of your squat. This rotation also reduces the contribution of your adductors to extend the hip, which violates the “stable” principle and makes your recovery more difficult.

Rotating your knees inward is another fault that violates the “stable” and “close” principles. Inward rotation can place your thighs in the way of your torso and push your hips back. This movement can make you fall backward or force you to move the barbell forward to equalize. However, this barbell movement places it away from its most stable position. Additionally, this compensation increases the difficulty of the lift because it moves the barbell’s center of gravity away from the body’s center of gravity. It is also possible for your spine to round, which reduces the torso pressure you need to stand up.

Coaching Tips:

- Incorporate 3-level snatch (quarter, half, full) to build positional strength to create a consistent catch position.
 - If the bar still falls on you, include snatch pull paused at the chest.
- Pause as you receive a power snatch, then perform an overhead squat to a depth where you can maintain a good knee position.
- Balance yourself on one foot and focus on equal pressure on your first toe, fifth toe, and heel. Then perform overhead squats while focused on your feet balance.
 - Pause at a depth where you notice your foot balance changes.



Foot, Shin,
and Thigh
Aligned



Knees
Opened
Excessively



Knees
Caved In



Catch: Arm Bend

Your arm position overhead determines your ability to place the barbell overhead, the location of the barbell overhead, and which muscles absorb the barbell's force.

The standard in China, and the rest of the world, is to straighten the arms completely during the catch. In weightlifting competition, it is against the rules to catch the barbell with bent arms unless the athlete is physically unable to extend their elbow into a straight position. Extending the elbows helps athletes internally rotate their arms and squeeze their shoulders blades together to recruit their midback muscles. This position disperses the barbell's force over a larger area and maximizes the support against the weight.

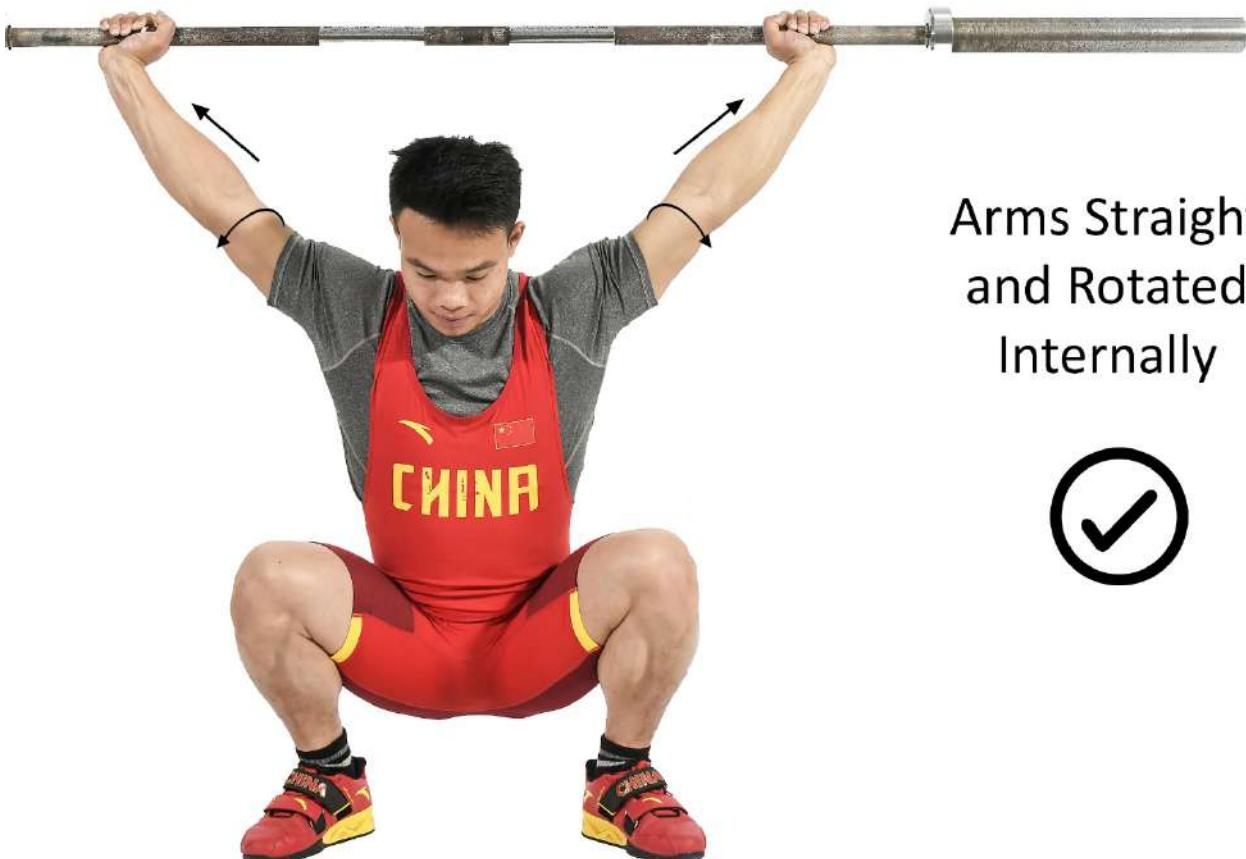
Fault:

Bending the arms during the catch violates the "timing" and "stable" principles by shifting the stress from the larger and stronger back muscles to the relatively weaker shoulder and arm muscles. There are several causes for arm bend. The first is due to poor timing between the extension and catch. For example, pulling the barbell too high delays your catch, so your body and barbell drop together, and you will not have enough time to extend your elbow. Even if you can extend, it is difficult to stop the barbell's momentum, so the elbow flexes.

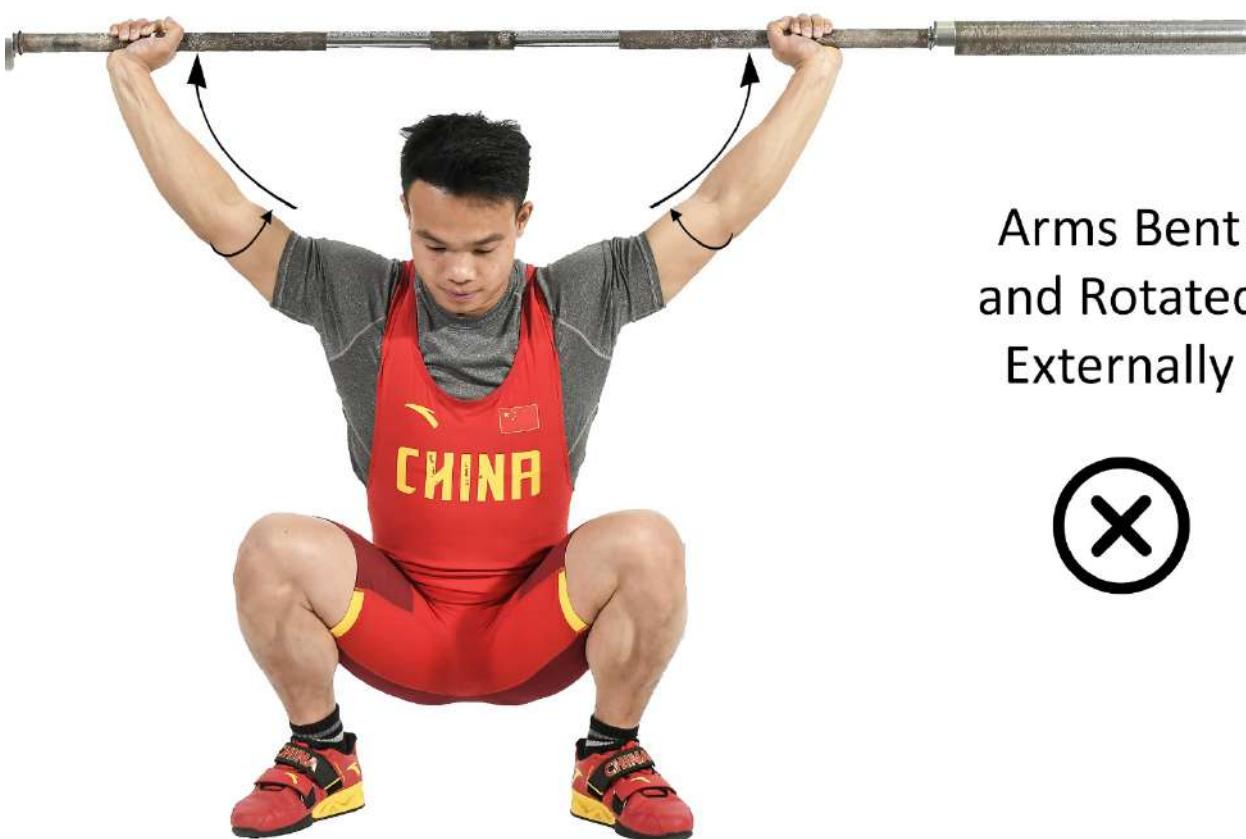
Secondly, the arms can bend because of difficulty coordinating the body into the correct position. For example, tensing your forearms during the high pull delays their upward movement during the catch. If you maintain this tension, then your arms might not have sufficient time to lockout. Alternatively, releasing this tension after the extension leaves your arms unprepared to catch the bar. Both cases violate the "timing" principle even if you manage to achieve sufficient barbell height during the extension.

Coaching Tips:

- Incorporate snatch pulls with and without pause to increase the accuracy of your extension.
 - Use straps to relax your forearms.
- Focus on maintaining the internal rotation in your arms as they move overhead.
 - Perform snatch-grip upright rows with straps.
 - Then perform snatch-grip upright rows + muscle snatch while maintaining a standing position.
 - Then incorporate plantarflexion during the concentric, dorsiflexion during the eccentric/catch for each movement.
 - Finally, combine your deadlift and squat with this movement.



Arms Straight
and Rotated
Internally



Arms Bent
and Rotated
Externally



Catch: Symmetry

In weightlifting, most of the attention to stability focuses on the forward-backward direction. However, side-to-side stability is also important to distribute the stress of the barbell evenly to avoid injuries and guarantee a successful lift.

The standard in China, and the rest of the world, is to catch the barbell evenly and parallel with the floor. This position minimizes side-to-side movement and ensures the athlete can simply stand up straight during the recovery.

Fault:

An uneven catch can occur from asymmetries during the extension. For example, asymmetrical strength or positioning within the torso could cause you to lift one side of the barbell higher and finish catching it sooner than the opposite side, causing an uneven catch.

This uneven catch position can occur even if you can pull symmetrically. For example, if one side can rotate or press faster overhead, then the opposite side will be in a suboptimal position during the catch.

Despite their similar positions, catching unevenly usually occurs during the snatch instead of the squat jerk. The space between your arms forms the lever to stabilize the barbell overhead. Since the squat jerk has a narrower grip than the snatch, this lever is smaller and hence requires more effort to stabilize the barbell. And the squat jerk is much heavier than the snatch, which is why it is almost impossible to overcome an uneven catch in the squat jerk.

Coaching Tips:

- Use snatch grip upright rows in front of a mirror to pull symmetrically.
 - Then use a mirror to perform snatch pulls with a pause at the chest to coordinate your right and left side.
- For uneven catch, use a mirror and perform the following movements to coordinate your right and left sides:
 - Muscle snatch,
 - Overhead squat,
 - Drop snatch,
 - Snatch turnover.



Catch: Rotation

During the catch, stability is essential in all directions to reduce the risk of injury and maximize your support against the barbell.

The standard in China, and the rest of the world, is to catch the barbell evenly to minimize its rotational movement. This position keeps the barbell aligned over the midfoot, which preserves the athlete's balance and maximizes their ability to push against the barbell. And this position disperses the load evenly on both sides of the body.

Fault:

Rotation in the left or right direction overhead can occur if you have a stronger side that can pull, rotate, and extend quicker than the other side. Additionally, stability, flexibility, and mobility asymmetries can also hinder your range of motion and the speed of the catch. Regardless of the reason, the stronger side absorbs more of the load while the weaker side is in a suboptimal position. Additionally, the recovery requires more time and energy to stabilize the barbell. Therefore, an overhead rotation violates the "timing" principle.

Additionally, an asymmetrical catch can move both sides away from the vertical line over the midfoot, which violates the "stable" principle. A deep squat is a very stable position with very few movement options. But if the rotation speed is too fast, it might be difficult to overcome the momentum of the barbell. Therefore, it is very easy to lose the barbell.

Coaching Tips:

- Pause in your catch position and have a partner rotate the barbell into a symmetrical position.
 - Try to memorize this symmetrical position and land there in your next rep.
 - Incorporate snatch turnovers with this configuration to ensure you pull vertically into a squat position.
 - Use a mirror if you do not have a partner.
- Perform snatch deadlift in front of a mirror to ensure you are pushing symmetrically.
 - Incorporate pauses at locations where you notice shifting to adjust your position.
 - Combine deadlift w/pauses + deadlift to build muscle memory.
- Perform snatch grip upright row + muscle snatch from the hip to train symmetrical transition overhead.
 - Use snatch pull w/pause at the chest + muscle snatch to train symmetrical transition with speed.



Even
Catch



Rotated
Catch



Snatch Recovery

The recovery is the last step before completing the snatch. As the barbell rises, small movements have a larger influence on your balance, so your recovery must minimize horizontal forces to ensure a successful lift.

The standard in China is to lift the chest aggressively and contract the glutes to keep the barbell moving vertically over the midfoot as the athlete stands up. In this situation, the hips and shoulders rise together to prevent forward movement in the torso or backward movement in the hips. The head should maintain its 45° downward tilt to keep the load on the upper trapezius and midback muscles.

Fault:

If you swing the barbell during the extension, do not internally rotate your arms overhead, or shift their head forward too much during the catch, then your torso will incline forward to maintain balance. It is difficult to lean back because this creates backward momentum, so the usual solution is to raise your hips. But this position requires greater shoulder flexion to balance the barbell and can introduce more instability as you stand.

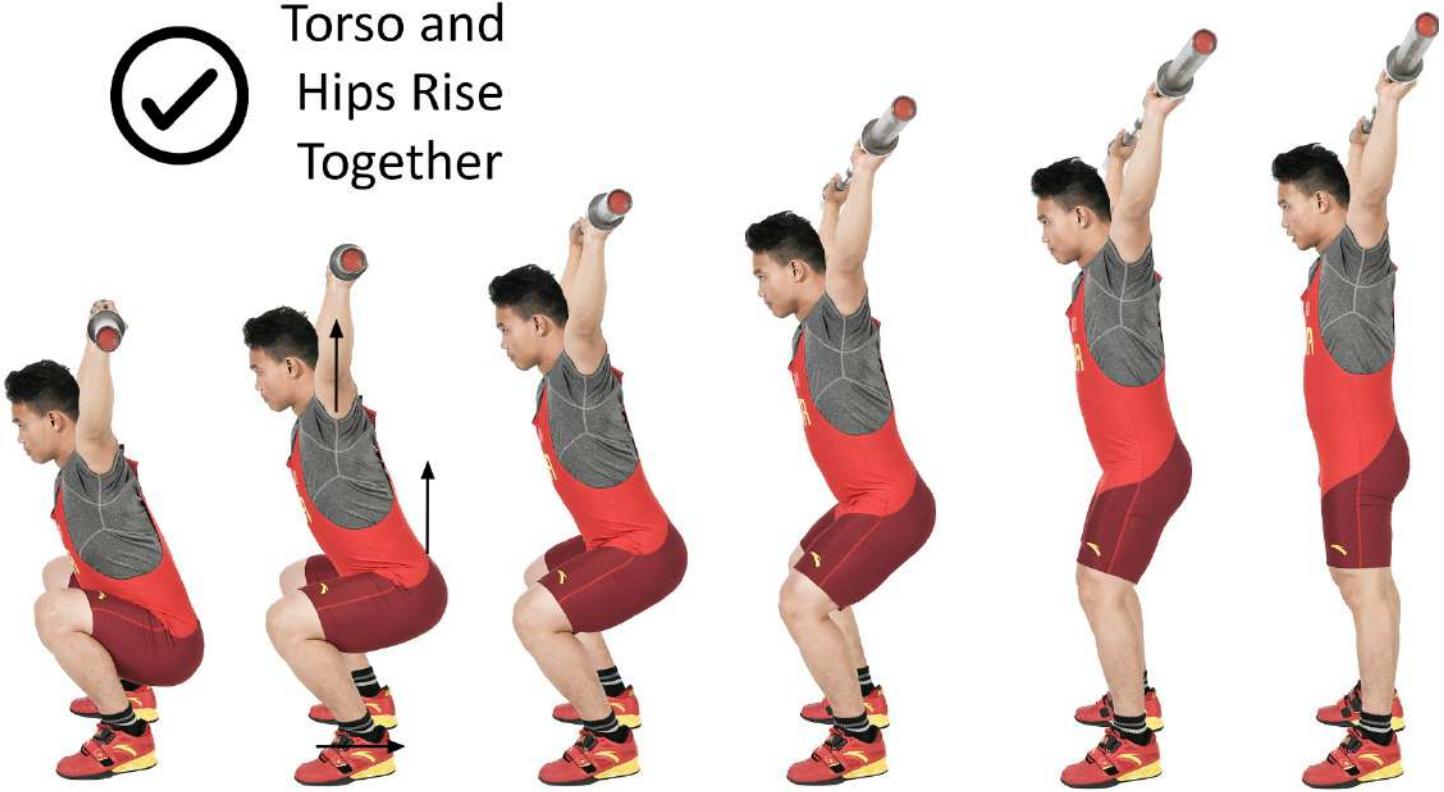
Some athletes move their hips backward during the recovery due to coordination issues. For example, some athletes pull the knees, thighs, and foot pressure inward while extending the hip. If your thighs get in the way of your hips, then you cannot move your hips forward. Instead, your hips will shift backward and incline the torso forward. This issue can also occur if you rush the recovery and not focus on controlling your body to stand.

Coaching Tips:

- After you catch the barbell, have a partner place a stick vertically aligned with your midfoot.
 - Make sure the barbell is in contact with the stick.
 - Stand up while maintaining the barbell contact with the stick.
- Consider implementing the following exercises to develop coordination between your glutes and adductors:
 - Pause squats,
 - Squats with bands around the knees,
 - Lateral squats,
 - Lateral step-ups.
- Place a piece of tape on the side of your waist, then focus on elevating the tape vertically as you recover.



Torso and
Hips Rise
Together



Hips Rise
Faster than
the Torso



Clean





Clean Grip

Your grip influences your start position and your contact point for the extension, power position, force production, and how you catch the barbell. Therefore, you must use a grip that optimizes these criteria.

The standard in China is to use a grip at least one fist-width from your shoulder. For most athletes, this grip is wide enough to achieve an optimal start position, a high contact point, and a stable rack position during the catch. And it maximizes the load on the legs so the extension can be quick and powerful. For most athletes, this width is manageable for catching the barbell in a front squat position.

Fault:

Some athletes grip the barbell too wide, approaching the same grip used in the snatch. This grip is challenging to load heavily because the tension in the hands and arms increases as the grip widens. Some athletes compensate by bending their arms or tensing their forearms, which violates the “timing” principle by altering the barbell’s position and increasing its resistance. And a wider grip requires your torso to flex over a greater degree to grab the bar, which means your lower back must perform more work to keep your torso rigid. Therefore, a wide grip limits the weight you can load for the clean.

Some athletes grip the barbell narrowly by using the natural resting position of their arms. This grip lengthens the distance between your shoulder and the barbell, which allows you to sit much more upright and appears to minimize the stress on your lower back. However, there are two problems with this grip. First, it is too narrow for your lower body, so your thighs might be in the way during the deadlift, which can round your lower back and violate the “close” principle. Additionally, the contact point is lower than a standard grip, which means your upper body must perform more work during the extension, violating the “fast” principle.

Coaching Tips:

- Measure one fist-width outside of your shoulder and then grip outside of this distance.
- You must use *your* hand to measure to ensure the distance coincides with your body proportions; otherwise, the barbell might be too close or too far.
- Use a hook grip.
- Wide-grip cleans are an assistance exercise for intermediate lifters who need help staying upright in their catch or want more transfer to their snatch.

Standard
Grip



Too
wide



Too
Narrow



Knee & Arm Alignment

Because of the narrow grip used for the clean, your knee alignment can interact with your arms, which can affect your balance, torso position, and force production. Therefore, it is essential to align your joints to optimize these criteria.

The standard in China is to turn the feet outwards and use the glutes to align the knee with the midline of the foot while keeping the arms straight. The legs can rub against, but not push, the elbows. This alignment brings the hips closer to the barbell, helps keep the torso upright, allows athletes to push from the entire foot, and preserves tension in the arms, all of which makes it easier to apply and transfer force. The exact angle depends on the athlete's hip structure, but the glutes should feel contracted in this position.

Fault:

Some athletes excessively rotate their knees outward. Usually, this mistake occurs because 1) they want to feel their glutes and other hip external rotators working, 2) they lack internal rotation in their hip, so they rotate externally to compensate, 3) their stance is too narrow, or 4) they simply learned to push their knees out excessively to create torque.

Regardless of the reason, this outward rotation shifts your pressure onto the lateral edge of your foot, which violates the “stable” principle. This position reduces the contribution of your adductors to extend your hip and overstresses the posterior and lateral tissues of the knee. And this rotation pushes your knees against your elbows and bends them. It also forces your torso to bend over, shifting your balance forward and increasing the stress on your back to stay upright. Additionally, it creates slack in your arms, which can abruptly change your speed and position once your arms straighten. Therefore, this grip also violates the “fast” principle.

Coaching Tips:

- Only push your knees out until they align with the midline of your foot.
 - If your knees push against your arms while using a hip-width stance, then widen your grip slightly.

Optimal
Grip: Knees
Rotated Out,
Arms Straight



Suboptimal
Grip: Knees
Push Against
Arms



Extension: Lower Body Coordination

A proper lower body extension is essential for using the most amount of power from your hips to maximize the barbell's upward speed and acceleration so you can create enough space and time to catch it in a front squat position.

The standard in China is to use the ankles, knees, hips, elbows, and shoulders to extend the whole body and maximize the athlete's vertical force. When the barbell reaches 5 – 10 cm below the hip crease, the lower body initiates the extension by pushing through the ground to extend the knees and hips simultaneously while maintaining pressure on the ball of the foot. Immediately afterward, the ankles will plantarflex to continue pushing through the ground and add intensity to the extension. Since the contact occurs earlier than in the snatch, the extension for the clean relies more on lower body strength and power.

Fault:

The first type of fault occurs if you lack ankle flexion or do not maintain this flexion long enough for the barbell to reach its optimum height. This incomplete extension forces your arms to tense, which reduces their ability to transfer vertical force and continue accelerating the barbell. Pulling excessively with your arms violates the “fast” principle and the “timing” principle because it is easy to pull too high, which disrupts your timing to catch the barbell.

Another common fault occurs if you rush to use your upper body before completing your leg and hip extension. In this case, your legs cannot push powerfully against the ground to transfer force through the body, which forces your upper body to compensate as in the first fault and reduce the intensity of the pull.

The final fault occurs if you extend your knees but not your hips. This incomplete extension happens when you try too much to maintain your balance, fear hyperextending your torso, or have difficulty coordinating hip extension into the lift. Regardless of the cause, this kind of extension reduces your vertical force, which violates the “fast” principle. It also violates the “stable principle” because you can easily slide backward.

Coaching Tips:

- Keep your balance on the ball of the foot.
 - Use a piece of tape on the ground, align the ball of your foot to it, and then extend while staying on the line.
 - Imagine the extension as performing a vertical jump without leaving the ground.
- Strengthen your extension with standing calf raises with an explosive concentric.
- Strengthen your leg extension with leg press at 45° or 90°.



Full Hip
and Ankle
Extension

Incomplete
Ankle
Extension

Incomplete
Ankle & Hip
Extension

Incomplete
Hip
Extension



Extension: Upper Body Coordination

The upper body increases the intensity of the extension and guides the barbell to the shoulders. A well-coordinated upper body movement continues to transfer energy from the legs and through the torso to accelerate the barbell.

The standard in China is to elevate the elbows and shoulders as the ankles plantarflex. This elevation requires the upper trapezius, lateral deltoids, and biceps to lift the barbell after the legs extend. However, to the athlete, these movements should feel like one simultaneous motion with the leg extension. The abs and back muscles hold the torso in a rigid position to transfer the force from legs and hips, and the forearms should stay relaxed during the extension.

Fault:

One of the major faults during the pull is to hyperextend your torso rather than using core and back muscles to stay vertical. This hyperextension shifts your balance backward and reduces your vertical force because it can limit your ability to plantarflex your ankle or straighten your legs. Hyperextending your torso also increases your distance between the barbell and increases the stress on the lower back and shoulder joints. Depending on your strength and the weight of the barbell, it is possible to jump backward or forwards after this extension, which is inefficient and can violate the “stable” principle.

Sometimes, beginners do not use their upper body to elevate the barbell after extending their legs. Beginners commit this mistake when they solely focus on driving with their hips during the extension. Intermediate athletes achieve the same position if they tense their arms and shoulders. In this case, your arms produce a downward force against the barbell’s upward momentum, which violates the “fast” principle. Additionally, the barbell has no place to travel except away from the body, which violates the “close” principle by creating a large arc and decreases the height the barbell can achieve. This arc pulls on the shoulder joint along with the neck and midback muscles. Usually, the athlete must jump forward to catch the barbell, which violates the “stable” principle.

Coaching Tips:

- Perform clean pulls from your contact point to build your coordination.
 - You can use blocks or perform from a hang position at this height.
- Get in your start position, then have a partner place a stick vertically and lightly touching the end of the barbell. Your goal is to pull vertically to avoid hitting the stick.
- Pause at the power position to ensure you are extending from a jumping position.
 - Imagine pulling up your pants by the seams to your belly button.



Body and Bar
are Close to
Each Other



Body Leans
Away from
the Bar



Bar Moves
Away from
the Body



Extension: Head & Chest Position

Your body must remain close to the barbell during the extension to maintain balance and continue generating upward force. Your head and chest position are critical components in realizing these goals.

The standard in China is to push the chest out and maintain the head up about 45° during the extension. This position supports the slight extension in the thoracic spine and naturally contracts your rear deltoids and back muscles. These actions prevent the barbell from drifting away from the body, which reduces its resistance and increases your ability to generate upward force.

Fault:

The main fault occurs when your head drifts forward or downward during the extension. Some athletes learn to tuck their chin from deadlifting in a powerlifting style. Other athletes push their head forward because it gives a feeling of staying close to the barbell. However, these movements flex your thoracic spine and protract your shoulders, which moves your torso away from the barbell.

This gap between your torso and the barbell stresses your spine and back muscles and violates the “close” principle. This gap also reduces your transfer of vertical force into the barbell, which violates the “fast” principle. Finally, this position increases the horizontal distance the barbell must travel to reach your shoulders. Depending on the barbell’s speed, the barbell can collide with your clavicle or throat during the catch.

Coaching Tips:

- Keep your head up and chest out as if you are trying to keep your head above water.
 - Place a piece of tape over your throat and imagine keeping it visible to an audience in front of you.
- Alternatively, place a piece of tape over your diaphragm and imagine pushing it forward while keeping your arms and shoulders relaxed.
- Use a mirror and pause at the top of the pull to evaluate if you have a gap with the barbell.



Head Up,
Chest Out



Head Forward,
Chest Caved



Extension: Height for Clean Pull

The purpose of the clean high pull is to lift the barbell to a height where you can catch the barbell as close to its apex as possible in a front squat position. This height reduces the stress on the body during the catch and enhances stability.

The standard in China is to extend the legs and pull with the upper body in one fluid motion to the navel. This height is the minimum to catch the most amount of weight in the lowest front squat position. The height also maximizes the force from the legs and the speed of the pull from the upper body vertical force, which helps create proper timing for the catch.

Fault:

The first fault is pulling too low, which occurs if the barbell is too heavy or you rush to drop under the barbell. Regardless, most athletes do not have the mobility or time to catch the barbell from a low pull. Catching from this height is dangerous because it is possible to sprain the wrists or drop the barbell on the thighs if the barbell does not have enough upward momentum. If you simply rush under the barbell, then do not maximize your body's potential because the trapezius and lateral deltoids can still apply vertical force to lift the barbell higher. Therefore, pulling low violates the "timing" and "fast" principles.

Another common fault is pulling the barbell too high. For most athletes, this fault occurs due to balance problems in the deadlift, lack of coordination during the extension, or waiting too long to begin transitioning under the barbell. An excessively high pull reduces the time available to get under the barbell in a low front squat position. Therefore, most athletes will catch the barbell in a quarter squat or half squat and then lower themselves. This movement requires more work you could have used to catch heavier weight. Therefore, pulling high violates the "timing" and "low" principles.

Coaching Tips:

- Keep your wrists relaxed; use straps if necessary.
- Perform your clean pulls in front of a mirror to assess your height.
- Alternatively, go to a squat rack, stand up straight, then plantarflex your ankles and measure your navel height.
 - Set the rack at this height and place a stick/PVC on the hooks.
 - Set up your barbell perpendicular to the rack and perform a clean pull. The end of your barbell should only contact the PVC lightly if you are pulling correctly.
 - Lift your shirt during the extension until you reach your navel.
- Alternatively, have a partner hold a PVC at the height of your high pull, then aim lightly touch the PVC.



Navel Height



Too Low



Too High



Extension: Elbow Position

The elbows help aim the direction of the barbell and influence the timing of your catch. With proper positioning, you can continue increasing the speed of the barbell and smoothly roll it onto your clavicle and shoulders.

The standard in China is to use the upper trapezius, lateral deltoids, and biceps to point the elbow vertically. This position keeps the barbell close to the body and minimizes its arc, maximizing its height. Athletes must maintain their chest out and perform this movement.

Fault:

The most common fault is rotating your elbows backward, restricting your ability to internally rotate and elevate the shoulder. This fault usually occurs by 1) tensing your forearms during the extension, 2) tilting your shoulder backward by hyperextending your torso, 3) maintaining a retracted posture due to stiff posterior shoulder or overactive midback muscles, or 4) focusing on actively rotating the elbows upward to prepare for the catch.

In these cases, your elbow points behind your body, which no longer positions it to apply vertical force and violates the “fast” principle. Many athletes compensate by lifting with their wrists and shifting the load from their upper trapezius and lateral deltoids to their brachioradialis. This shift changes the pull into a reverse curl, which increases the distance between your body and violates the “close” principle. And the trajectory of the barbell has a greater arc during a reverse curl, which violates the “timing” principle and can cause the barbell to crash onto the shoulders, clavicle, or neck.

Coaching Tips:

- Stand up straight and point your elbows towards the ceiling.
 - Use straps to relax your forearms if necessary.
- Imagine lifting your shirt to expose your navel.
- Stand sideways in front of a mirror, then perform your clean pull with pause to observe your position.
- Perform clean-grip upright rows to focus only on upper body coordination.



Elbows Up,
Pulling with Traps
and Deltoids



Pulling with the
Wrists, Rotating
the Elbows



Pulling Under the Barell

The transition under the barbell is a fluid continuation of the extension. It is an active movement where the body squats under the barbell as the arms, shoulders, and upper trapezius continuing elevating the barbell to the shoulders.

The standard in China is to actively dorsiflex the ankles to slide the feet downward and laterally after the extension. As the slide occurs, the arms, shoulders, and upper trapezius continuing elevating the barbell to the shoulders. Once the barbell passes the navel, the wrist begins to pull onto the barbell, and the arms rotate backward and then forward. This pull keeps the barbell close to the body and temporarily releases pressure on the legs to move laterally. Overall, sliding is the quickest way to bring the heels to the ground from a plantarflexed position and allow the hips and knees to assist the upper body in actively pulling under the barbell.

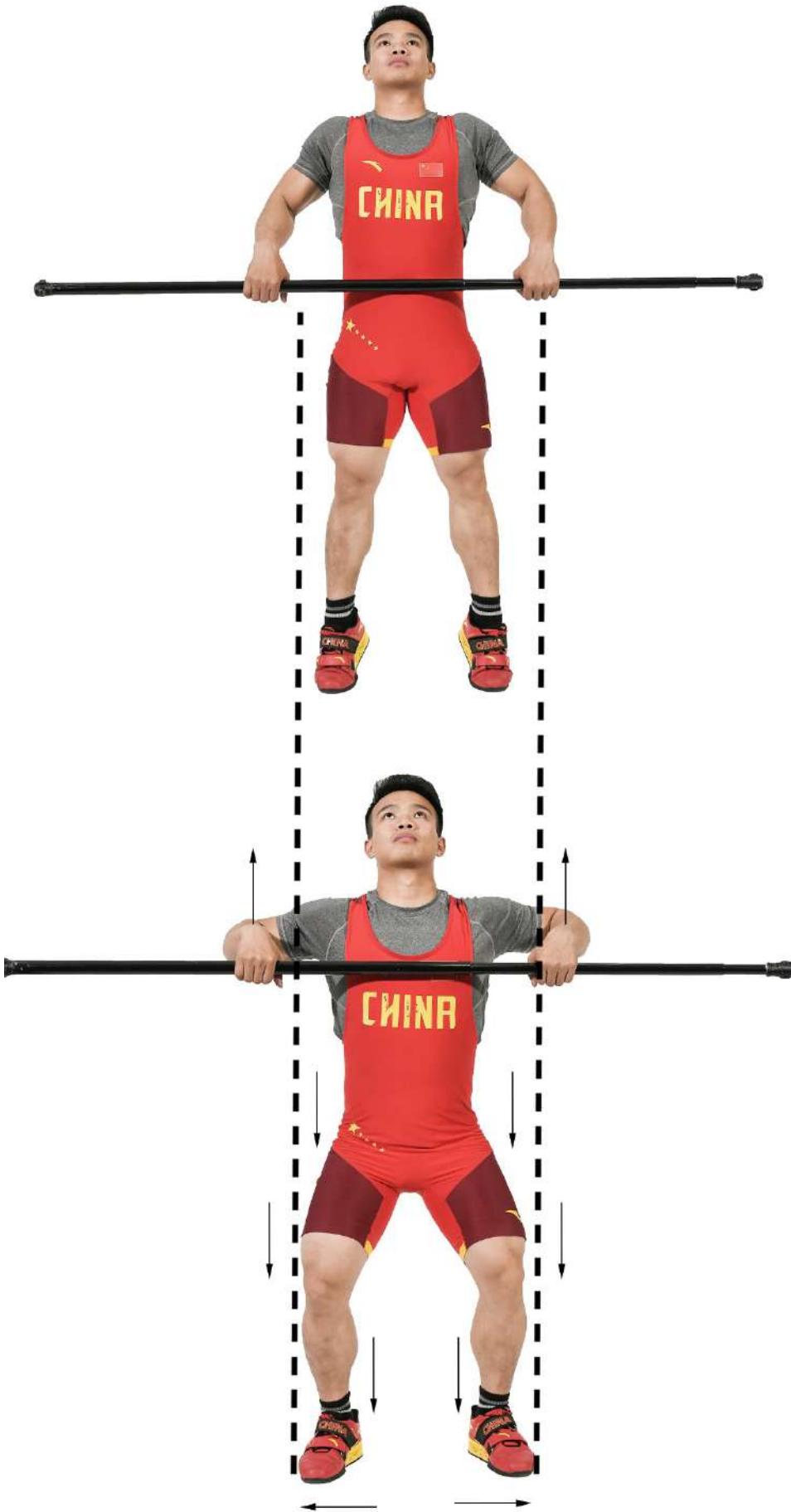
Fault:

Because the transition requires coordination of the upper and lower body, there are many possible faults. First, beginners often pull too high (almost to chest height) before they drop under the barbell because they lack confidence getting under the barbell. If you pull excessively, you will delay your transition and violate the “timing” principle. This delay creates a situation where you and the barbell drop together, forcing you to absorb the impact through the elbows, shoulders, hips, and knees.

Many athletes in the West learn to adjust the feet laterally as they produce upward force rather than as they change direction, which can result in jumping off the ground as the barbell elevates. Jumping lengthens the time in the air where the body cannot apply force. Therefore, you must wait until you land on the ground before you can pull on the barbell and perform a squat. This delay violates the “timing” principle and can prevent you from catching the barbell or place you in a dangerous position during the catch.

Coaching Tips:

- From the start position, imagine jumping into the catch position.
- After the extension, imagine lowering your heels as if creating a splash in a puddle of water.
- Try to finish the slide and pull simultaneously.
- Go to a squat rack, stand up straight, plantarflex your ankles, and measure your navel height. Set the pins at this height and place a stick/PVC on the pins.
 - Set up your barbell perpendicular to the rack and perform a clean speed pull (panda pull). The end of your barbell should only contact the PVC lightly, and the barbell should reach the bottom of your chest.



Actively Pulling
Under the
Barbell



Catch: Front Squat Grip

Your front squat grip helps place the barbell on the shoulders and prevent it from falling during the recovery, which affects your torso position, balance, and which muscles receive the most stress.

The standard in China is to maintain a full grip through the catch to maximizes the connection with the barbell. This connection keeps athletes pulling and rotating the barbell, keeping it close, and moving it faster during the transition. Therefore, maintaining a full grip helps ensure a smooth catch. Some athletes are physically unable to hold the barbell on their shoulders with a full grip due to short forearms, but they still maintain their grip at least until their elbows begin rotating upward.

Fault:

Some athletes release their grip immediately after the extension or some other time before their elbows rotate under the barbell. This release can occur when there are errors in the clean pull, which forces them to adjust their body position rather than continue pulling. If you still release despite having a proper extension, you might lack shoulder mobility to continue pulling the barbell upward.

Alternatively, you might have difficulty keeping the shoulders and torso in a proper position to catch the barbell. Overflexing the torso can move your body away from the barbell, thereby requiring your hands to open to place the barbell on your shoulders. This fault disconnects you from the barbell, can result in a slow catch, place you in a weak position, or even have the barbell crash or roll off your shoulders. Therefore, it violates the “close” and “timing” principles.

Coaching Tips:

- ‘Wrap straps around the bar to help maintain a full grip.
 - Load a barbell in a squat rack at a height slightly lower than your regular squat height. Slowly press yourself against the barbell, pausing at spots that feel tight or asymmetrical.
 - Progress to partial movements until you can front squat with a full grip, such as:
 - Jerk dips,
 - Quarter front squats,
 - Pause front squats,
 - Box front squats.
 - Perform clean pulls + cleans to make sure you pull the same way between exercises.



Full
Grip



Incomplete
Grip



Catch: Power Clean

The power clean is a technical progression for the clean and used for developing power due to its lighter load and faster speed. It is also a way to lift the barbell to the shoulders to prepare for overhead movements. Because your lower body flexion is limited and the catch position is high, shifts in the upper body can have different results between the power clean and full clean.

The standard in China is to flex the knees and hips simultaneously with the barbell balanced over the midfoot. This position aligns the shoulders, hips, and ankles as close as possible, maximizing the support against the barbell.

Fault:

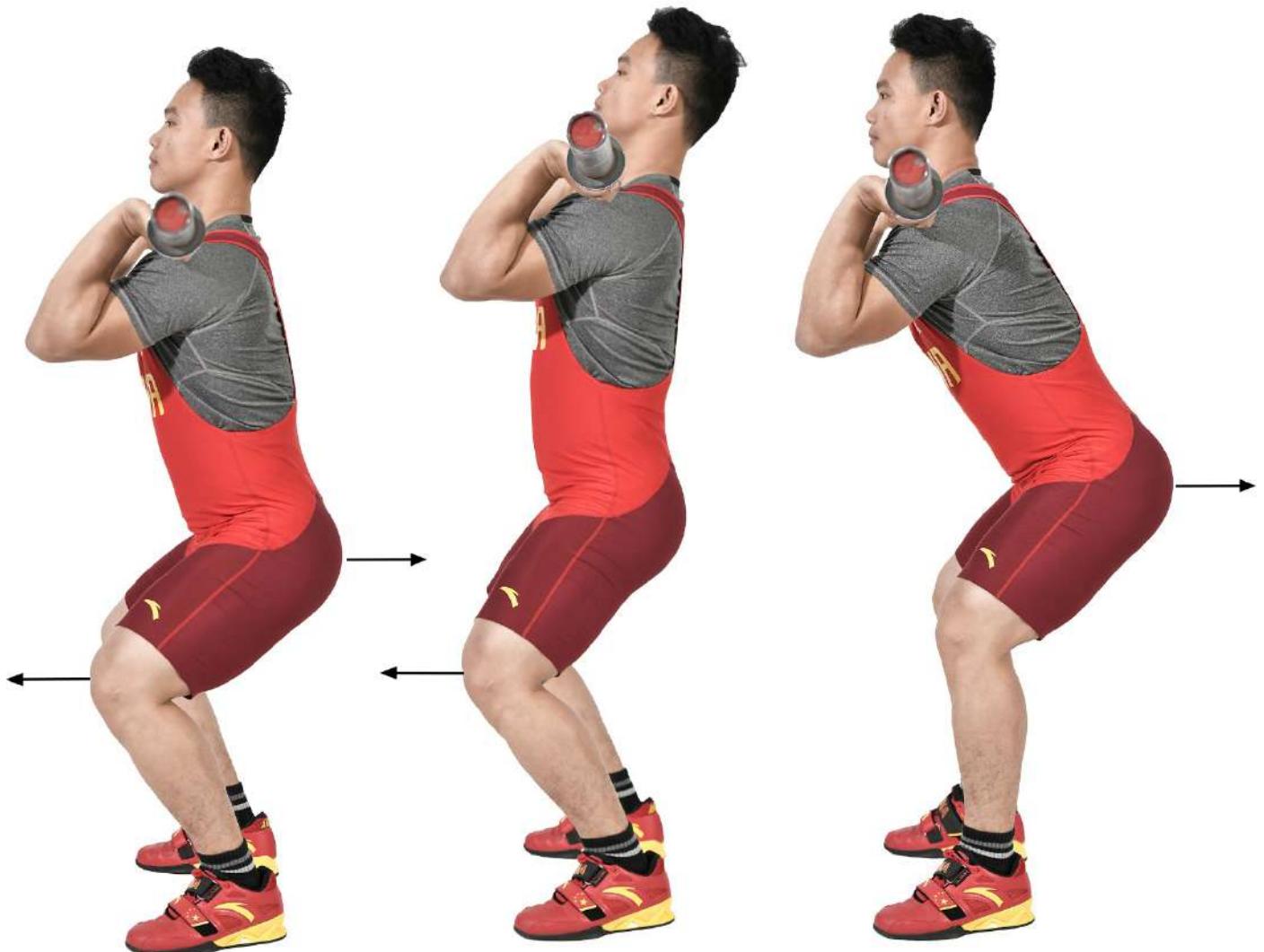
If your knees flex without enough hip flexion to counterbalance, then your torso can stay upright or even lean back, which can violate the “stable” principle by placing the barbell behind the midfoot. While your foot can easily remain flat, this fault reduces the support from your hips while increasing the stress on your knees and lower back. Usually, this position arises from leaning back excessively during the deadlift or extension, which generates backward momentum and prevents the hips from flexing in time.

You can also arrive at this position if you have insufficient shoulder internal rotation, which prevents you from pulling the barbell vertically to shoulders. Instead, it is easy to perform a “reverse curl” to generate enough height, but this movement creates an arc in the barbell’s path and prevents your hips from flexing your torso forward. While this error violates the “timing” principle and can occur at any weight, it occurs only at heavy weights for some athletes as they try to catch the barbell high.

Similarly, flexing your hips excessively backward is an error. Since your thighs are not blocking the torso, it is possible to bend over and shift the barbell past the feet, moving your balance forward. This flexed position reduces the stress on your knees, but your shoulder must flex and externally rotate to prevent the barbell from falling forward. This compensation violates the “stable” principle and forces your lower back, wrists, and shoulders to absorb the stress from the barbell.

Coaching Tips:

- Perform clean pull + power clean to build muscle memory for a correct pull.
 - Pause at the navel during the clean pull if necessary.
- Perform power clean without split to focus on moving vertically on the way up and down.
 - Then, combine power clean without split + power clean with split to build muscle memory.
- Pause during the catch to assess your balance.



Knees
and Hips
Flexed



Only
Knees
Flexed



Only
Hips
Flexed



Catch: Head Position

During the clean, your head position can change the barbell's location relative to your foot, affecting your torso position, balance, and ability to recover. If the recovery is too difficult, then it can leave you unprepared for the jerk.

The standard in China is to keep the head up about 45° throughout the entire clean, including the catch. With the head raised, it is easier to push the chest out and hold the back rigid, allowing for greater core stability. Additionally, it maintains the barbell over the AC joint, clavicle, and midfoot, making it easier to push against the ground during the recovery.

Fault:

The body follows the head, so tucking your chin or looking down during the catch can flex your torso and lower your elbow angle. This torso flexion can cause your back muscles to relax, which can round the spine and shift your squat balance forward. This error violates the “stable” principle and places more stress on your hips and lower back during the recovery.

This forward torso position can put pressure on the wrists and shoulders to support the barbell. For some athletes, the elbows might contact the knee, which compresses the forearm and can sprain the wrist. Other athletes will try to avoid this by actively pushing their elbows upward and inward against the barbell, but this creates further stress on the wrist and creates more spinal flexion in the midback.

Coaching Tips:

- Focus on a spot located at 45° throughout the entire clean.
 - Imagine keeping your head above water.
 - Place a piece of tape on your throat and keep it visible from the front.
- Maintain your chest out as you squat.
 - Place a piece of tape in the center of your chest, keeping it pointing forward.
- Sit up tall in your squat.
 - Perform a front squat by placing a piece of tape on your waist and chest and keep the distance constant between these pieces through the squat.
- Perform clean pulls + cleans to reinforce your head and chest position.
 - If you have difficulty with this combination, then perform clean pulls with a pause + drop straight down from this position and staying close to the bar.



Head Up
During Front
Squat



Head Down
During Front
Squat



Catch: Front Squat Balance

Compared to the snatch and squat jerk, the barbell is closest to the ground during a full clean, making it most resistant to barbell disturbances. However, you should implement techniques to maximize your stability to conserve energy for the jerk.

The standard in China is to align the shoulders over the midfoot while keeping the hips and ankles as close as possible to each other. This alignment minimizes lower back stress in favor of the legs and hips. It also enhances stability by maximizing the athlete's connection with the ground.

Fault:

Due to greater knee and hip flexion and limited torso mobility, the results from moving forward or backward are different between the power clean and full clean. For example, pushing your knees excessively forward can shift your body forward during a full clean because your torso cannot lean back to keep your feet flat.

Some athletes straighten their torso by lifting their heels off the ground, which reduces their connection with the floor and violates the "stable" principle. This position can result from pushing the barbell outward or performing a reverse curl during the extension. Additionally, this position can occur by primarily flexing the knees during the transition instead of using the hips and knees to offset each other. Since the barbell is in front of your body, it is easy to lose the barbell or run forward during the recovery, which wastes energy for the jerk.

Due to limited torso mobility, backward momentum forces your balance toward the heels instead of forward as in the power clean. You can avoid falling backward by rounding your back to push the barbell forward, but this compensation increases the distance between your torso and the barbell, which stresses your back muscles and spine. If you have an excessively narrow squat stance, lean back excessively during the extension, or have movement restrictions such as stiff ankles, then you will likely catch in this unstable position.

Coaching Tips:

- Perform 3 – level cleans (quarter, half, full squat) to build a consistent catch position.
- Perform no-hands front squat to balance the barbell properly.
- During your warmup:
 - Perform lunges with the front foot elevated to acclimate your ankle and hip to a deep squat position.
 - Hold a kettlebell between your legs and focus on sitting down in between your legs rather than sitting back.
 - Perform the same squat but hold the kettlebell close to your chest.



Balance
Over
Midfoot



Balance
on the
Toes



Balance
on the
Heels



Catch: Lower Back Tension

Your lower back stabilizes the core and prevents your torso from buckling. It influences your balance and stability by controlling the location of the barbell and its distance from your torso.

The standard in China is to maintain as upright a posture as possible while balancing the barbell over the midfoot. This position keeps the lower back rigid and allows it to transfer force through the body more effectively. It also shifts stress from the lower back to the legs and hips, making the recovery easier.

Fault:

Some athletes maintain their balance over the midfoot but flex their lower back because their pelvis naturally tilts posteriorly as their hip reaches its end range of motion, satisfying the “low” and “stable.” However, excessive lumbar flexion can increase the distance between your torso and the barbell, which violates the “close” principle. In this case, it will be difficult to absorb the downward force from the barbell and your body, making the recovery difficult or impossible.

There are many ways you can achieve this rounded position. The first way is through an improper pull or rack position. If the barbell has too much backward momentum, you will shift your balance towards your heels, which violates the “stable” principle. Some athletes compensate by rounding their torso to move the barbell forward, but there is a risk of your elbows dropping and contacting your knees, which is a technical foul and can sprain the wrist. Athletes can avoid this by relaxing their grip on the barbell and pushing their elbows up higher, but these movements exacerbate violations of the “close” and “stable” principles.

Restrictions in the lower body can also result in a rounded back position. For example, an excessively narrow squat stance will place your thighs in the way of the torso and cause it to bend. Restrictions in ankle dorsiflexion can prevent your knee from traveling forward and keeping your balance over the midfoot.

Coaching Tips:

- See the section “Catch: Elbow Position” of this chapter for elbow solutions.
- See the sections “Catch: Front Squat Width” and “Clean Recovery” of this chapter for squat suggestions.
- Perform a squat while holding a 5 – 10kg disc in front of you to assist in maintaining an upright torso position.



Tight Back,
Elbows Up



Rounded Back,
Elbows Down



Catch: Front Squat Width

The width of your front squat determines your maximal depth and how your torso moves during the clean. Therefore, your squat will also determine how high you must lift the barbell, the amount of stress absorbed during the catch, and your stability.

The standard in China is to catch the clean using the same stance as a front squat, which is about shoulder-width for most athletes. This stance is the strongest for utilizing leg strength, and it allows the body to squat into the lowest position possible. Catching in this position reduces the necessary height to lift the barbell during the extension, which reduces its downward momentum and decreases the stress on the midback and lower back.

Fault:

Some athletes have the same width for their deadlift and front squat, so they do not adjust their feet in the clean or the jerk. For everyone else, their deadlift stance is narrower than their front squat stance. If you do not slide your feet sufficiently after the extension, your catch position will be narrow, and your thighs can get in the way of your torso, which forces it to collapse as you lower yourself in a squat. This rounded torso position violates the “stable” principle and can create a collision between your elbow and knee, which can sprain your wrists. Other athletes compensate by catching the barbell higher to maintain an upright torso, but this means they must also drive the barbell higher to accommodate this position, which violates the “low” principle and is more work.

Another issue is to catch the barbell in a stance wider than their squat. This compensation occurs if you cannot perform a deep squat. A wide catch can allow you to attain a lower depth than normal, but not full. Driving the barbell too high will also cause you to catch wide because you will not have enough time to drop under the barbell. In both cases, your catch position will be higher than a deep squat, which violates the “low” principle and leaves you unable to maximize the lift. And some athletes will lean forward as they squat with a wide stance, which can force the barbell to roll off their shoulders.

Coaching Tips:

- Perform paused clean pull + clean to focus on coordinating your pull under and footwork.
 - If you feel more comfortable catching the clean in a different stance than your front squat, then consider training your front squat in the same stance as your clean.
 - If you do not feel comfortable changing your front squat stance, then place two mats parallel along the lateral side of your feet using the same width as your front squat, and stay within these lines as you receive the bar during the clean.



Optimal
Stance



Stance
Too Narrow



Stance
Too Wide



Catch: Knee Alignment

The barbell is more stable in the clean than the snatch and squat jerk because the barbell is closer to the ground, so it does not move as much for a given level of instability. However, your joint alignment heavily influences the stress on muscles, tendons, or ligaments, determining how you recover from the clean.

The standard in China is to turn the feet outward and align them with the knees. The exact angle will vary based on the athlete's hip structure and ankle mobility. For example, some athletes are extremely mobile and flexible. They can internally rotate their femur to appear caving inward; however, this is not a fault but rather a result of genetics. In all cases, athletes must push through the midline of their feet to minimize horizontal balance shifts during the recovery.

Fault:

Inward rotation can occur if you cannot rotate your knees outward sufficiently to accommodate your stance. Hence, a wide stance is often associated with internally rotated knees. Since most athletes have more external rotation ability than internal rotation, a wide stance will reach the end range of motion sooner. Additionally, athletes cannot compensate by flexing their hips because the bar can slide off the shoulders more easily. Therefore, a stance wider than your optimal stance will violate the "low" principle.

Second, inward rotation can occur by losing tension in your hips at the bottom of the front squat. Some athletes relax due to the impact of the barbell during the catch or to increase the time to stop the barbell. However, this position can place unnecessary stress on your knees and relax your lower back, which can throw off your balance and violate the "stable" principle.

Rotating your knees out past the lateral edges of the feet is a common error in the West. Some athletes perform this movement to create space for their torso to descend and achieve a lower squat position. However, excessive external rotation can violate the "low" principle because the femur must internally rotate to achieve a deep squat position. Other athletes use an excessively narrow stance, and they externally rotate to compensate. Regardless of the stance width, excessive external rotation violates the "stable" principle because it reduces the size of your lateral base to support the barbell and reduces the power of your recovery.

Coaching Tips:

- Incorporate 3-level clean (quarter, half, full) to build positional strength.
 - If the bar still falls on you, include clean pull paused at the navel.
- Balance yourself on one foot and focus on equal pressure on your first toe, fifth toe, and heel.

Then perform the following movements while focusing on your feet balance:

- No-hands front squats,
- Pause front squats,
- Step-ups to a high box.



Foot, Shin,
and Thigh
Aligned



Knees
Caved In



Knees
Opened
Excessively



Catch: Elbow Position

Your elbow position reflects the muscular activity surrounding your shoulder, midback, and core, which work together to support the barbell in a front squat position. The quicker and more easily you can reach this position, then the better timing you will have.

The standard in China is to place the barbell across the collarbone, contacting the clavicle and the AC joint of each shoulder. The shoulder blades must protract slightly to push the shoulders forward and create a shelf. Because protracting the shoulder blades can flex the thoracic spine, athletes must push their chest out and move their elbows outward to engage their midback muscles strongly.

The shoulders must elevate slightly to create a shelf and balance the barbell over the midfoot. And the elbows must elevate only as high as necessary to maintain the barbell on this shelf. Athletes with longer forearms relative to their humerus will point their elbows lower compared to athletes with shorter forearms, but both athletes will maintain the same type of shelf.

Fault:

Pushing your elbows inward and excessively upward is the most common fault. Some athletes learn to point their elbows straight ahead or keep their humerus parallel with the ground to prevent the barbell from rolling off the shoulders. However, only a few athletes can maintain an upright and rigid torso with this elbow position. For most athletes, this position causes them to raise their shoulders upward, which lifts the barbell off the clavicle and pushes it against their throat. Lifting the barbell this way can impede your blood flow and cause you to faint. Other athletes will protract their shoulders excessively to elevate the elbows, but this flexes their midback and pushes their torso backward. Increasing the distance between your torso and the barbell violates the “close” principle, which increases the resistance of the barbell and the energy needed to recover.

Coaching Tips:

- As you transition to catch, focus on keeping the logo of your shirt visible to an imaginary audience in front of you.
- During your front squats, place a piece of tape on each medial epicondyle of your elbow and keep them as far apart as possible.
- Strengthen your elbow rotation with wide grip biceps curls.
- Lift the barbell overhead and then lower it slowly to your clean rack position, as if performing a reverse curl to your shoulders. Pause where you start feeling tightness or asymmetry.



Elbows
Rotated
Outward



Elbows
Rotated
Inward



Catch: Elbow Symmetry

Deviations from an optimal rack position in the clean affect your ability to transfer force from your legs and the stress absorbed by your back. Your elbow symmetry helps optimize your catch by maximizing your contact with the barbell.

The standard in China is to maintain symmetry in the elbow position during the catch for the clean. This symmetry ensures that the muscles, bones, joints, and other soft tissues receive equal loading on each side of the body, which reduces the risk of injury and minimizes the barbell's rotational or lateral movements during the recovery.

Fault:

An asymmetrical catch can result from an asymmetrical pull. For example, some athletes pull the barbell with one elbow raised higher than the other, and others point one elbow back while the other points upward. These asymmetries can occur from movement restrictions during the clean pull or a strength imbalance between your right and left side. Regardless of the cause, this asymmetry lengthens the path on one arm, delays the catch, and results in a lower elbow position, which violates the "timing" principle.

Sometimes you might pull the barbell properly but still catch unevenly. This phenomenon can occur from movement restrictions in flexing your elbow, shoulder flexion, shoulder protraction, or external rotation. In these cases, your arm is restricted from reaching a high enough position, which delays the catch and violates the "timing" principle.

Additionally, an asymmetrical catch might result in a gap between your shoulder and the barbell, which violates the "stable" principle by reducing the size of your base in contact with the barbell. For example, this gap can cause the barbell to slip down during the catch and/or reduce the amount of force you can transfer on that side during the recovery, resulting in an uneven recovery or rotation.

Coaching Tips:

- Perform clean-grip upright rows to coordinate the upper trapezius, lateral deltoid, and biceps between the right and left sides of the body.
- Progress to clean pulls with and without pause from various heights (power position, above the knee, and floor).
- Perform a single-arm kettlebell front squat on your restricted side and take deep breaths to develop support strength.



Clean Recovery

The recovery is the last step before completing the clean, but you must recover quickly and stably to conserve energy for the jerk.

The standard in China is to maintain the head up at 45°, lift the chest aggressively, and forcefully contract the glutes to move the barbell vertically over the midfoot during the recovery. This coordination raises the hips and shoulders together to prevent forward movement in the torso or a change in the elbow angle.

Fault:

If you raise your hips faster than your shoulders, you will move them farther away from each other and the midfoot. As during the power clean, this position places excessive stress on your wrists and shoulders to avoid dropping the barbell. Higher hips also make your lower back and hamstrings perform more work to lift the barbell. This movement can occur from catching the barbell forward or backward due to an improper pull and transition, looking down as you catch, or upper and lower body movement restrictions. These issues all violate the “stable” principle and wastes energy available for the jerk.

However, it is possible to properly pull and catch the barbell and still raise your hips faster than your shoulders. If you have difficulty extending your hips, your knees may straighten quickly to compensate, resulting in your hips shifting upward and backward. This fault will reduce the force production capabilities of your hip muscles, shifting the workload to your knee and lower back muscles.

Coaching Tips:

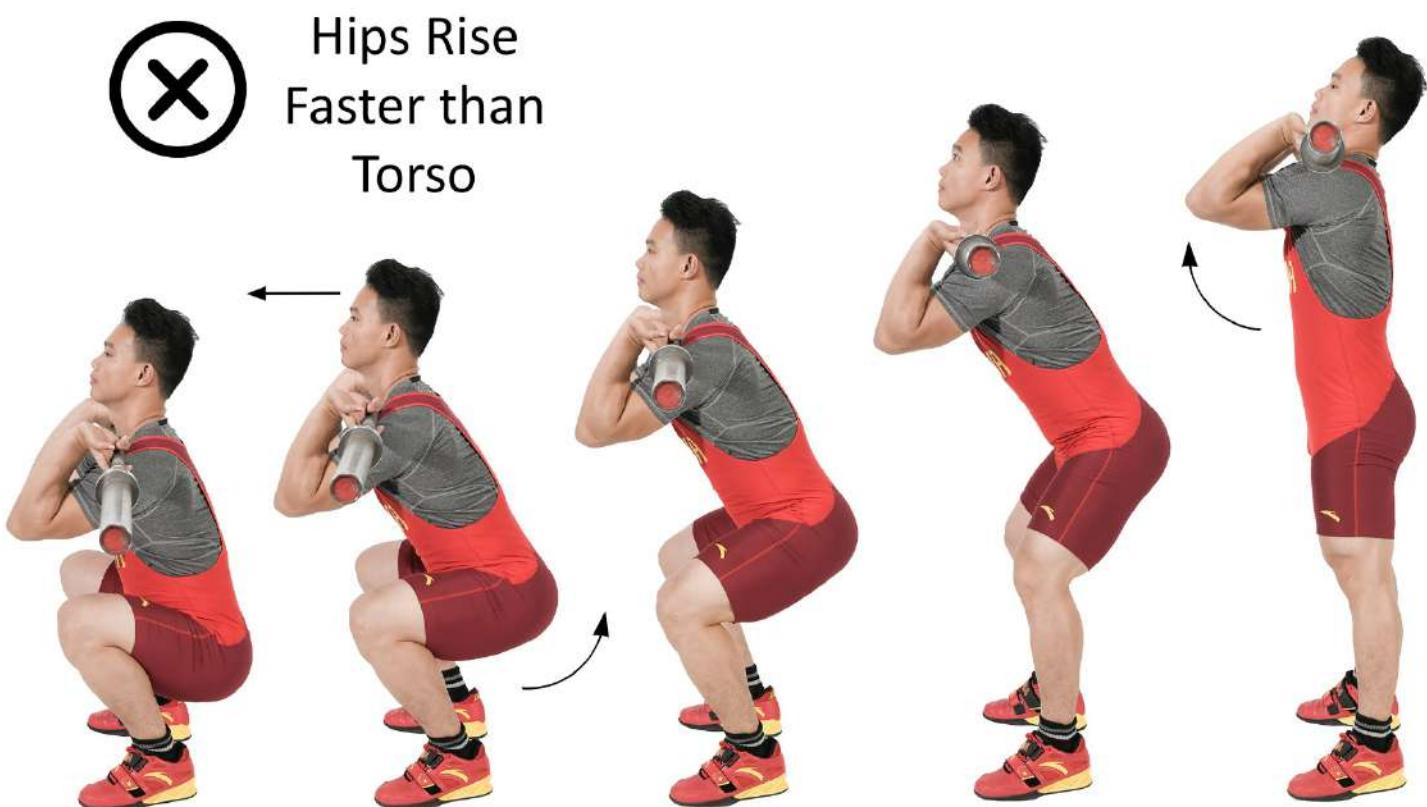
- Implement the following movements to develop muscular coordination for the recovery:
 - Pause front squats,
 - 1 ¼ front squats,
 - Front squats with bands around the knees,
 - Front squats with arms straight ahead (no-hands front squat),
 - Step-ups to a high box.
- Place a piece of tape on the side of your waist. As you recover, focus on lifting the tape vertically.



Torso and
Hips Rise
Together



Hips Rise
Faster than
Torso



Jerk





Adjustment after the Clean

For most athletes, the optimal grip for a front squat differs from a jerk because a jerk is closer to an overhead press, and the balance point is over the ankle bone. Knowing what an optimal pressing position is and how to achieve it efficiently helps prepare you for the jerk.

The standard in China is to adjust your grip outward as you recover from the clean. This adjustment occurs by pushing the barbell off the shoulders using the upward momentum produced by the legs during the recovery. While the amount of adjustment will vary based on the athlete's comfort, a wider grip allows the athlete to push the chest out more easily and contract the back muscles to maintain torso rigidity.

Additionally, adjusting to a wider grip will shorten the distance the barbell must travel to reach the overhead position. Therefore, a wider grip improves force transfer into the barbell and makes the jerk faster. Finally, because the space between the arms forms the lever to control the barbell overhead, adjusting the grip provides greater control and stability.

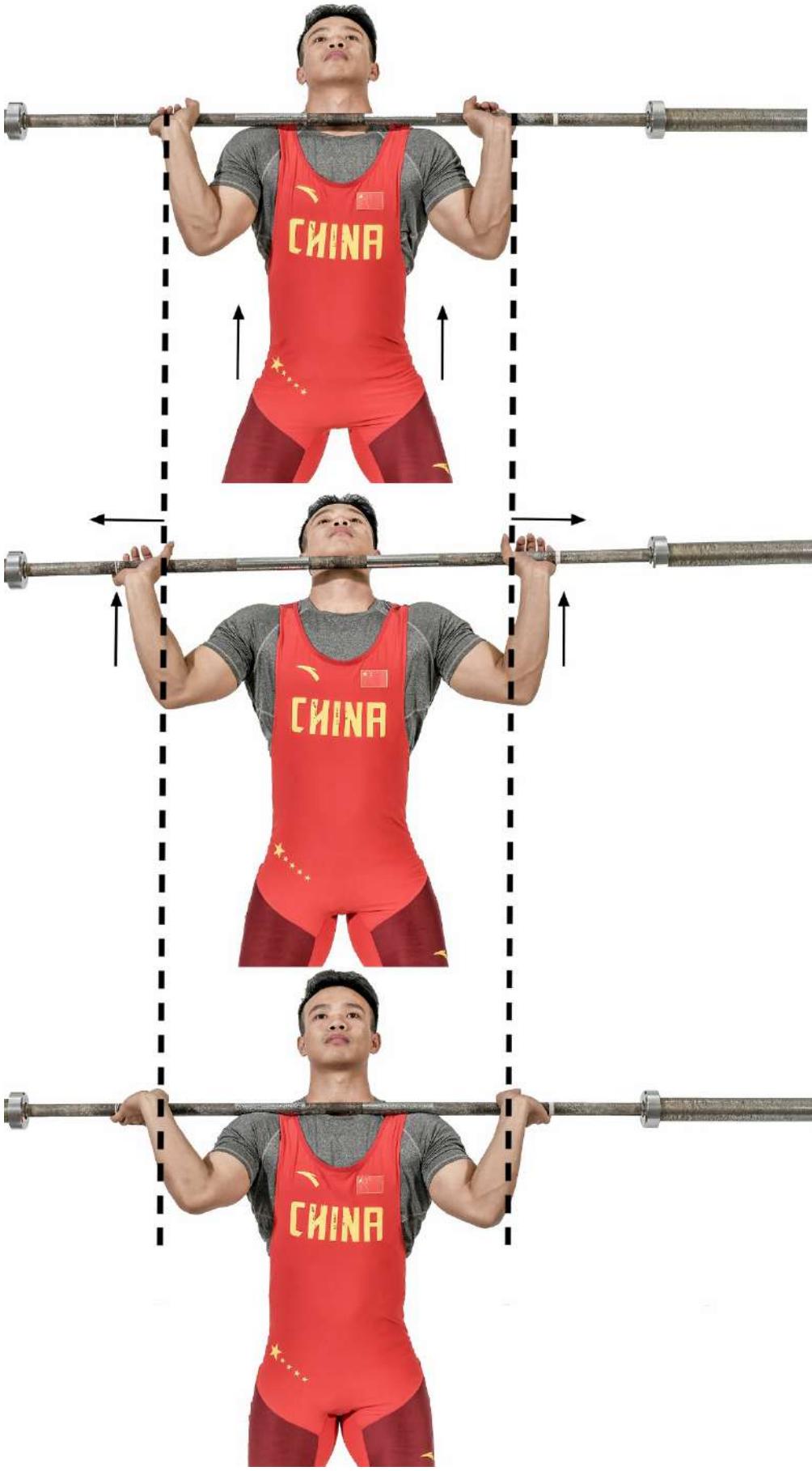
Fault:

Adjusting your grip *after* standing up from the clean wastes time and energy. Since the barbell is resting on your shoulders, you must twist yourself into a wider position or use your legs to push the barbell off of you to adjust. Both cases introduce instability and increase the time under tension on your back and legs, which can fatigue them before the jerk.

Some athletes can adjust their grip very wide, almost approaching a snatch grip; however, most athletes do not have the mobility and flexibility to achieve this position. Conversely, some athletes maintain their clean grip because their arms are too short to adjust. But most athletes will need some level of adjustment; otherwise, they lengthen the time required to place the barbell overhead, which violates the "timing" principle. Additionally, a narrow grip violates the "stable" principle because it requires more work from your shoulders to stabilize overhead.

Coaching Tips:

- Arch slightly through your thoracic spine by expanding the logo of your shirt or stretching a strip of tape placed across the middle of your chest.
- One way to find your grip is to grab a band with a supine grip and position your arms as if completing a chin-up. Your hands should be under your chin.
 - Pull the band as far apart as possible while maintaining the medial (inner/pinky side) part of your elbows pointing forward.
 - Once you find this grip width, try it with an empty barbell.



Adjust Grip
Outward
During the
Clean Recovery



Jerk Stance: Width

The stance for the jerk will determine the stability of the jerk dip, the power of the extension, and the maximal height the barbell can achieve. Therefore, you must choose a stance that maximizes these qualities.

The standard in China is to take one step inward on each leg to return to a hip-width stance after the clean. This stance is identical to the start position for the clean, and it is optimal because it mimics a natural vertical jump. The feet should be flat and rotated outward at the same angle as the start position to align the midline of the feet with the knees. Using the same stance between the snatch, clean, and jerk maximizes vertical power and increases the transfer between these lifts, which allows for a greater variety in your training to help avoid injuries.

Fault:

Maintaining the same stance after the clean violates the “timing” principle. For most athletes, this stance is too wide, and it shortens the height of the extension. Additionally, because your legs are at a diagonal angle, some of their force is exerted horizontally rather than vertically. This loss of vertical force violates the “fast” principle. And the horizontal force can produce unnecessary stress along the medial side of the knee and reduces your vertical force during the extension.

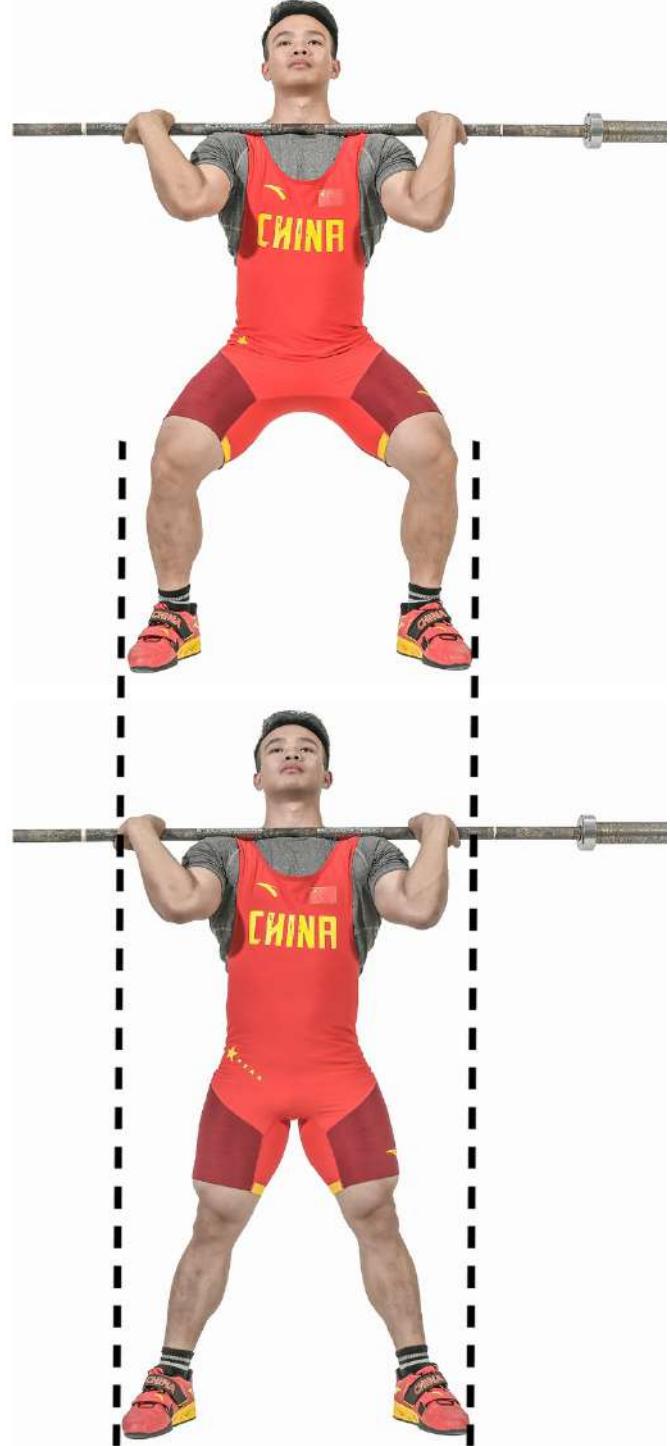
Some athletes have a hip structure where their most comfortable and powerful stance for start position, clean, and jerk are the same. Therefore, they do not adjust their stance during the lift and can still satisfy the 5 principles. These athletes are an exception and should not change their stance.

Coaching Tips:

- After the clean, position yourself to jump vertically.
- Place some tape parallel on the outer side of the feet during the start position, then use a mirror to step back until the outer side of your feet are inside the tape.



Jerk Stance
Same as Clean
Start Position



Jerk Stance
Same as Clean
Catch Position



Jerk Stance: Foot Balance

Your foot balance determines your overall stability, which influences how straight the barbell travels during the jerk dip, your ability to change direction, and the barbell trajectory during the extension. So, to maximize vertical force, you must push from a stable foot position.

The standard in China is to maintain balance over the ankle bone to prepare for the jerk. This balance point forms a vertical line with the location of the barbell on the shoulders, which creates the most efficient path for the barbell to travel. This position also maximizes the athlete's stability because the body is in an upright posture.

Fault:

Many athletes lean back deliberately to avoid getting pulled forward by the barbell. While shifting your balance towards your heels gives you a sense of balance, it will be difficult to lift your heels during the extension, which reduces your vertical force and violates the "fast" principle.

Some athletes in the West learn to lift their toes to ensure their balance stays towards the heels, but this movement violates the "stable" principle because it reduces the size of your base connected with the ground. It also further violates the "fast" principle because you reduce the foot length available to plantarflex the ankle and generate vertical force.

Some athletes maintain their balance over the midfoot or ball of the foot. This position forces you to lean forward, which violates the "close" principle because it creates a greater distance between the barbell and the hip joint (your center of gravity). It also violates the "stable" principle because the barbell can pull you forward more easily and even lift your heels.

Coaching Tips:

- Have a partner place a stick vertically on the outer edge of your foot and aligned with your ankle joint:
 - If the stick is in front of the barbell, then shift your balance and position forward.
 - If the stick is behind the barbell, then shift your balance and position backward.
- Keep your core braced as if you will absorb a punch.



Standing
Straight



Leaning
Back



Leaning
Forward



Jerk Stance: Leg Position

Your leg position after the clean affects the load on the joints and muscles and your balance. When preparing for a jerk, you must position your legs to optimize these criteria.

The standard in China is to stand with straight legs after the clean. This position locks the knee and hip joints, which shifts the support from the muscles to the bones. The leg muscles work on stabilizing the body, which is less taxing than supporting the barbell. Therefore, a straight-leg position gives the legs a moment to recover from the clean and prepare for the jerk. Even 1 – 2 seconds can provide enough recovery to extend powerfully. Finally, a natural straight-leg position will position the barbell over the ankle bone, which is the balance point for split jerks and squat jerks.

Fault:

Some athletes keep their knees flexed after the clean, perhaps because they anticipate the jerk and are too tense, or because keeping the legs bent helps them feel their muscles and more in control. However, this fault causes numerous issues that reduce the accuracy and stability of the jerk.

First, it violates the “fast” principle because your quadriceps fatigue when you flex your knees, reducing your power during the extension. Additionally, bending your knees violates the “stable” principle because it can aim the barbell in a forward trajectory and pull your balance forward. Some athletes compensate by arching their lower back, but this stress is excessive on the lumbar muscles and spine.

Some athletes will extend their knees but not their hips to shift their balance towards their heels. However, this position forces your torso to lean forward, violating the “close” principle. Some athletes anteriorly rotate their pelvis and hyperextend their lower back to reduce the distance between the body and the barbell. But this compensation places excessive stress on the lower back and can lead to injuries over time.

Coaching Tips:

- Stand up straight as if “at attention.”
- Contract your glutes and extend your knees.
 - Have a partner remind you to lock your knees and contract your glutes by tapping these areas with a PVC.
- Incorporate reverse planks in your training to strengthen your ability to tighten your core while extending your legs.



Knees
and Hips
Extended



Knees
Flexed



Hips
Flexed



Rack Position: Head Position

Your body follows your head. And because you are standing straight to prepare for the jerk, small changes in your head position can have large effects on your balance and body positioning. Therefore, your head position will influence your ability to perform a smooth jerk dip and aggressive jerk drive.

The standard in China is to lift the head to about 45° from the floor. This position creates a slight backward shift in balance, making it easier to push the chest and elbows out, extend the thoracic spine, and place the barbell on the groove of the deltoids and clavicle, all of which create a wide and stable base to support the weight. Additionally, this backward shift disperses the load throughout the body, which maximizes support and avoids overloading any areas.

Fault:

Some athletes look down to check their stance or keep their head neutral to avoid extending their neck. Since your body follows your head, looking down can lower your elbows excessively, which can move the barbell forward and violate the “close” principle. As the barbell moves, your arms will tense, and your thoracic spine can flex. These compensations can also prepare you to violate the “fast” you will reduce your ability to transfer vertical force through the upper body.

Some athletes in the West learn to extend their neck backward. This neck extension moves your chin out of the way to prepare for the jerk drive. However, it can shift your balance toward the heels, reducing your base of support and ability to lift your heels during extension. Moving your head backward can also force the rest of your torso to arch excessively, which can stretch your abdominals and reduce your torso stability.

Coaching Tips:

- Keep your eyes fixed on a spot 45° above your line of sight.
 - Place a piece of tape on your throat and keep it visible from the front.
- Push your chest out.
 - Place a piece of tape on your sternum and focus on pushing it forward while keeping your arms and shoulders relaxed.
- Keep your core braced as if you will absorb a punch.



Head Up



Head Down



Head Back



Rack Position: Elbow Angle

Your elbow angle during a front squat or clean differs from a jerk because the balance point between these movements differs. Additionally, the elbow angle for a front squat keeps the barbell balanced as you recover, while the elbow angle for a jerk is to create the best position to lift the barbell overhead.

The standard in China is to lower the elbows during the adjustment after the clean. As the barbell lands on the shoulders, clavicle, and base of the palm, the elbows drop to position the forearms more vertically, which is advantageous for transferring vertical force into the barbell. This adjustment reduces the protraction in the shoulders and shifts the support towards the spinal erectors, making it easier to keep the torso more rigid. Athletes with longer forearms relative to their humerus will have a lower angle than athletes with shorter forearms, but the minimum is for the elbows to be in front of the barbell when viewed from the side.

Fault:

Sometimes beginners will not adjust their grip outward after the clean and instead raise their elbows higher to push the barbell closer to the throat and maintain more control. The problem is this arm position is more like a triceps extension rather than an overhead press. A triceps extension is a weaker motion and can shift the barbell forward rather than backward. And if your forearm is relatively longer than the humerus, it will be impossible to lift your elbows while maintaining a straight back because the barbell cannot travel further back into your neck. Therefore, you violate the “close” principle as your thoracic spine flexes to move away from the barbell and create room to lift your elbows.

Some athletes align their elbows with the barbell or even behind the barbell. In this position, you violate the “stable” principle because you cannot lift your shoulders to create a shelf to support the barbell. If you lack flexibility or mobility to place the barbell on your shoulders, you must hold the barbell in your arms and extend your neck to create room. This position violates the “stable” principle because the barbell can move during the jerk dip while stressing your wrist, arms, shoulders, and spine.

Coaching Tips:

- To find your natural elbow position: imagine resting a tray of food on your palm and shoulder and try to keep the tray parallel with the floor.
- Keep your core braced as if you will absorb a punch.



Elbows
Down



Elbows
too High



Elbows
too Low



Rack Position: Shoulders

A base that maximizes contact between the body and the barbell transfers the most force into the barbell. Additionally, your base should be stable to minimize the barbell's movement during the jerk dip and extension.

The standard in China is to rest the barbell on the clavicle and the AC joint of each shoulder. The shoulder blades must still protract slightly while the shoulder elevates slightly and externally rotates to create a shelf; however, these movements are less pronounced than in the clean because the torso is more upright and must move along a shorter range of motion during the jerk. This position places more support onto the midback and spinal erectors, so athletes learn to push their chest out strongly to engage midback muscles to prevent the torso and barbell from falling forward.

Fault:

Tensing your shoulders raises the barbell off your collarbone and causes many problems. First, this movement places the barbell closer to your windpipe, which obstructs your breathing. Second, the barbell can press against an area on the neck called the superior carotid triangle, which contains the carotid artery. Pressing against this artery can reduce blood flow to the brain and cause you to pass out quickly. Third, this position forces your anterior deltoids to support the barbell rather than the skeleton.

These muscles are usually not strong enough to hold a heavy barbell, and it is easy for them to lose their position during the jerk dip. This movement violates the "stable" principle. Even if you can maintain your position during the dip, tense arms and shoulders violate the "fast" principle because they slow the transfer of vertical force, and they cannot maximize their upward force.

Coaching Tips:

- Strengthen your midback muscles with variations of barbell/dumbbell rows, reverse crossovers, and reverse flies.
- Incorporate no-hands front squats to become comfortable with supporting the bar along your clavicles.
- Place a piece of tape on each medial epicondyle of your elbow and keep them as far apart as possible while pushing your chest out.

Bar Rests on
Shoulders
and Clavicle;
Back Tight



Shoulders
Raised; Gap
between Barbell
and Clavicle



Rack Position: Elbow Symmetry

Deviations from an optimal start position in the jerk will affect the quality of your jerk dip, extension, and catch by affecting your ability to transfer force and overhead support.

The standard in China is to maintain symmetry in the elbow position during the rack position and the jerk dip. Symmetry ensures that the muscles, bones, joints, and other soft tissues receive equal loading on each side of the body, which reduces the risk of injury. It also minimizes extra movements during the jerk dip, which can disrupt the extension and catch.

Fault:

The first type of asymmetry holds the barbell on the shoulders but with one elbow raised higher before or during the jerk dip or the extension. This asymmetry can occur from an inability to express adequate shoulder flexion. Restrictions in shoulder flexion can violate the “timing” principle because they change the distance and path each arm travels to straighten, causing an uneven catch.

The second type of asymmetry positions the shoulders asymmetrically, resulting in a gap between the shoulder and barbell. This asymmetry can occur from either excessive shoulder extension on one side, difficulty protracting your shoulder forward, or inability to express appropriate shoulder external rotation.

Each of these faults prevents the shoulder from creating an even shelf to rest the barbell on, potentially causing the barbell to slip down during the jerk dip. This fault violates the “stable” principle. Additionally, it violates the “fast” principle because it reduces the force you can transfer on that side.

Coaching Tips:

- Lift the barbell overhead and then lower it slowly to your rack position, as if performing a reverse curl to your shoulders. Pause where you start feeling tightness or asymmetry.
- Perform jerk dip variations in front of a mirror to equalize each side, such as:
 - Static holds at the bottom,
 - Paused at the bottom,
 - Touch and go.



Symmetrical
Rack Position



Asymmetrical
Rack Position



Rack Position: Jerk Grip

Even though the barbell rests on the shelf formed by shoulders and clavicle, you must use an optimal grip to balance the barbell during the jerk dip and catch the barbell in a strong overhead position.

The standard in China is to grab the barbell with as full of a grip as possible while maintaining a strong shelf. Some athletes cannot hold the barbell with full grip due to short forearms, but they still try to place the barbell as close as possible to the base of the palm. Moving the barbell towards the palm aligns the barbell closer to the forearm bones to transfer vertical force when pushing overhead. Some athletes can maintain their hook grip while others release their thumb, but this is an individual difference that should occur naturally.

Fault:

If you can grip the barbell fully, you must keep your forearms and hands relaxed; otherwise, they can push the barbell forward or off the shoulders, violating the “close” and “stable” principles. Keeping these areas tense will slow down the vertical force transfer during the extension, which violates the “fast” principle. Some Western athletes use a false grip where the barbell rests on the base of the palm without aid from the thumb. This grip usually compensates for elbow or shoulder mobility restrictions and can be dangerous overhead since the barbell can slip off the palm.

If you cannot grip the barbell fully, gripping with three fingers are the minimum to maintain a secure grip, as the palm can stay relatively flat. Gripping with four fingers is optimal, but it might not be possible if your pinky finger is too short. However, with less than two fingers, your hands can twist inward and lift the outer sides of your wrists, which will reduce the vertical force transferred into the barbell, violating the “fast” principle. Additionally, this position must correct itself before the lockout; otherwise, it will be impossible to hold the barbell overhead.

Coaching Tips:

- Grab a barbell with straps. Use a full overhand grip in the same width as your rack position, then push it overhead.
 - Then lower it slowly to your rack position, as if performing a reverse curl to your shoulders.
- Load a barbell in a squat rack at a height slightly lower than your regular front squat height. Slowly press yourself against the barbell, pausing at spots that feel tight or asymmetrical.
 - Use straps to help maintain a full grip.



Full
Grip



Incomplete
Grip



Jerk Dip: Depth

The purpose of the jerk dip is to 1) create downward momentum of the barbell to push against and 2) place your body in a powerful position to transfer the most amount of upward force into the barbell during the extension.

The standard depth in China, for most athletes, is where the knees align directly over the toes. This depth is the optimal distance to generate considerable momentum while maintaining the barbell vertically over the ankle bone. It provides enough time to stop the barbell sharply and generate elastic energy into it.

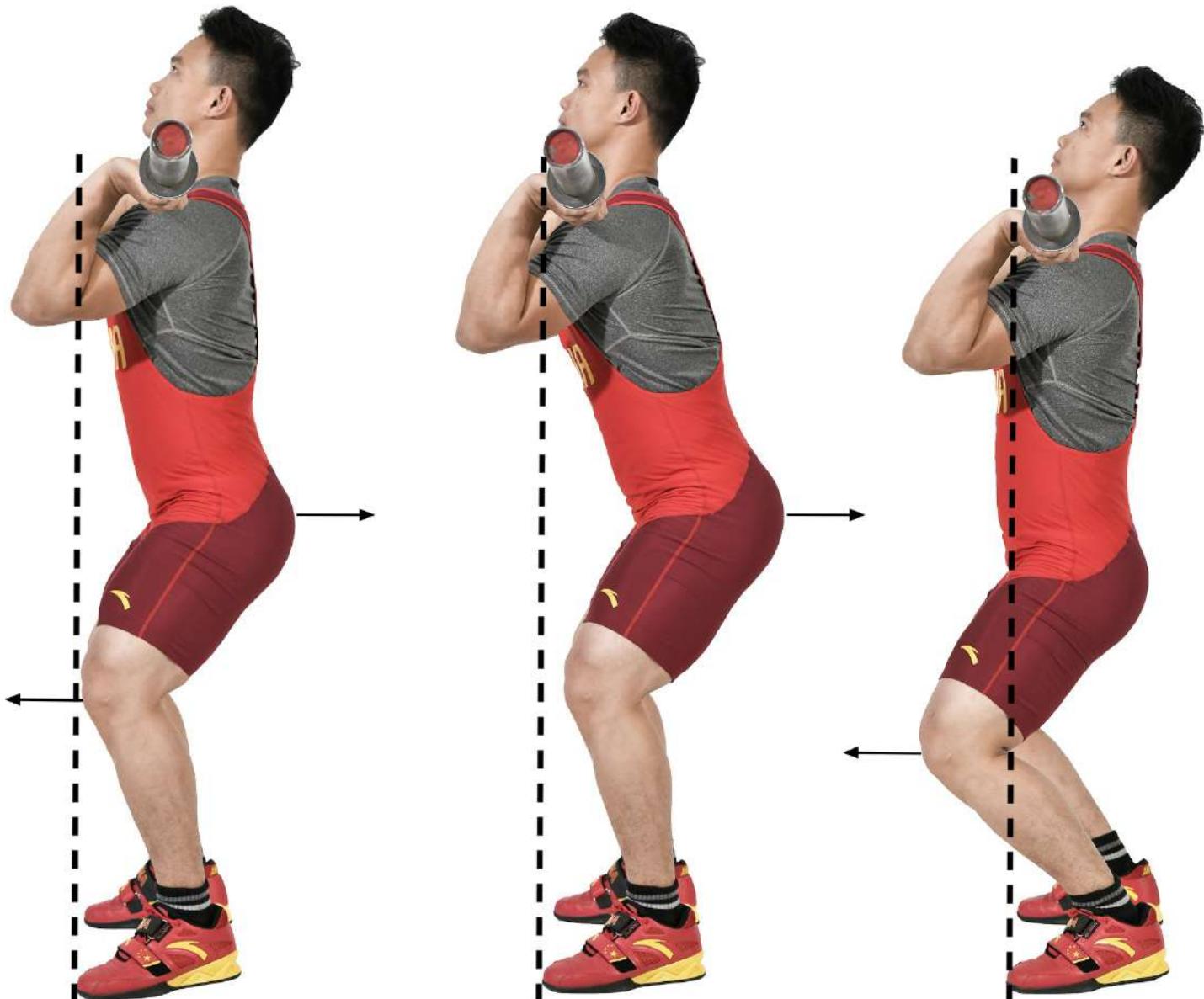
Fault:

Some athletes try to shorten their jerk dip, but they compensate by bending mainly at the hips. However, this flexion violates the “close” principle because your body moves away from the barbell. It also violates the “stable” principle because your torso flexion aligns the barbell from the ankle bone to the midfoot. This forward shift lengthens the diagonal distance the barbell must travel from the shoulders to overhead, which violates the “timing” principle. Additionally, this type of dip does not load your legs sufficiently, which affects their ability to contract and generate upward force. However, this dip will increase the load on the back muscles to stabilize the torso rather than to transmit force. Hence, this dip will be slow.

Only flexing your knees during the jerk dip is a common mistake for all levels of athletes. Due to the lack of hip flexion, your knees must pass the toes to create enough potential energy in your legs. But this excessive knee flexion shifts your balance forward, which violates the “close” principle. And it violates the “timing” principle because shifting forward usually increases the depth of the dip and lengthens the diagonal distance the barbell must travel to reach overhead. Finally, this type of dip can overload small muscles such as your ankle dorsiflexors (which must compensate for the lack of hip flexion) and lower back (which often hyperextends to avoid falling forward).

Coaching Tips:

- Have a partner hold a stick aligned from the ankle bone to the barbell, then dip so the barbell stays on this line.
- Have your partner place a stick vertically over the midline of your foot, then dip only until the middle of your patella touches the stick.
- Perform jerk dips and jerks with the stick to develop your muscle memory and rhythm.
- Imagine holding a glass of water in your palm, then dip without letting it spill.



Knees
Aligned
Over Toes



Knees
Behind
the Toes



Knees
Past the
toes



Jerk Dip: Knee Angle

During the jerk dip, your knee angle helps load the lower body and position yourself to change direction quickly and forcefully to generate elastic force into the barbell.

The standard in China is to maintain balance over the ankle bone and use the glutes to rotate the knees out. This movement prepares the body to push forcefully and quickly against the barbell by 1) pushing from the entire foot, 2) aligning the foot, shin, and thigh, and 3) loading the glutes to prepare for the extension.

Fault:

Collapsing your knees inward during the jerk dip can occur if your glutes or hamstrings are weak, your adductors are tight, and/or your quadriceps are dominant. Ankle mobility restrictions can also prevent you from aligning your knee with your foot. So, caving inward compensates to achieve enough depth for the jerk dip. This fault violates the “fast” principle because it does not load the glutes or prepare them to extend the hips powerfully.

Rotating the knees inward also violates the “stable” principle because it shifts your foot pressure inward, which further weakens your extension by pushing from a smaller base. Finally, rotating the knees inward can stress the tendons, ligaments, and cartilage on the medial side of your knee.

Some athletes rotate their knees excessively outward to avoid shifting their balance forward. However, this compensation violates the “fast” principle because it reduces the role of your adductors to extend your hip. Additionally, rotating excessively outward violates the “stable” principle because it shifts your foot pressure to the lateral edge of your foot and reduces the size of your base. Finally, this type of jerk dip can overstress the posterior and lateral tissues of the knee.

Coaching Tips:

- Have your partner place a stick vertically over the midline of your foot, then dip only until the middle of your patella touches the stick.
 - Perform jerk dips and jerks with the stick to develop your muscle memory and rhythm
 - You can also perform the drill by facing against a wall with your toes touching, then perform jerk dips so that the middle of your patella touches the wall.
- Pause after the eccentric portion of the jerk dip so you can feel your balance and knee alignment.
- Pause before the extension of your jerk to ensure the accuracy of your jerk dip.
 - Gradually reduce the duration of your pause to increase muscle memory.
 - Also, perform paused jerk + jerk and make sure the balance and posture of each jerk dip are identical.



Knees
Hips, and
Feet Aligned



Knees
Cave In



Knees
Bow
Outward



Jerk Dip: Head & Elbow Position

During the jerk, your head and elbow positions can change your shelf, affecting your torso position, balance, and ability to extend powerfully.

The standard in China is to maintain the head at 45° from the floor. The elbows keep the same angle established after adjusting from the clean, and they remain rotated outward. These actions help prevent the torso from collapsing by loading the latissimus dorsi and midback muscles rather than the arms and shoulders. Keeping a rigid torso also transfers more force more quickly.

Fault:

Beginners often look down to check their stance, and others look down during the jerk dip. Since the body follows the head, lowering your head can pull your torso forward and cause your thoracic spine to flex. This flexion violates the “close” principle because it moves your torso away from the barbell and can move the barbell toward the midfoot. Alternatively, if the barbell is heavy, your torso can also move forward and shift your entire balance forward, which violates the “close” and “stable” principles.

A flexed torso also violates the “fast” principle because it reduces your ability to change direction quickly and transfer through the body. It also loads your wrists and forearms, which slows down the jerk. Finally, the resistance of the barbell increases in this flexed position, which stresses your spine.

Some athletes lower their elbows during the jerk dip, usually because they anticipate pushing the barbell overhead or do not understand that the power comes from the legs. This movement violates the “timing” principle because it engages the arms too early. Additionally, it violates the “fast” principle because lowering the elbows can load the wrists and forearms, which reduces their ability to transfer force overhead.

Coaching Tips:

- Focus on a point 45° in front of you and keep your head fixated on it as you dip.
 - Place a piece of tape on your throat and keep it visible to someone standing in front of you.
 - Imagine keeping your head above water as you dip.
- Perform jerk dips in front of a mirror to ensure your elbows remain stationary.
 - Add a pause before standing to focus more on your elbow positioning.



Head and
Elbows
Unchanged



Head
Drops
During Dip



Elbows
Drop
During Dip



Jerk Dip: Speed & Timing

The speed of the jerk dip influences how the barbell and body move together. With proper timing, you can increase the upward speed and height of the barbell.

The standard in China is to reach the optimal depth smoothly and then change direction immediately and forcefully. A smooth but fast dip increases the downward momentum of the barbell, which generates more downward elastic bend. A sharp and forceful change in direction synchronizes the athlete's force with the barbell's upward elastic force to lift the barbell faster and higher.

Fault:

Descending too fast during the jerk dip can separate the barbell from your shoulders because the barbell cannot fall quickly enough due to its inertia. This separation requires you to wait for the barbell to crash on you before you start extending, which dissipates the elastic energy in your body. Alternatively, extending during the separation creates a collision against the barbell and disrupts your upward force. Both cases are violations of the “timing” principle and can lead to injury because your joints and muscles must absorb the impact of this collision.

Some beginners dip too slowly or hesitate when changing direction. These movements reduce the downward momentum of the barbell and dissipate its elastic energy, which violates the “fast” principle and increases the difficulty of moving the barbell upward. Some athletes compensate for their slow movement by descending deeper or extending longer to increase the time to accelerate the barbell. However, this violates the “timing” principle and can overstress your lower body or upper body.

Coaching Tips:

- If you experience separation with the barbell during the dip, then slow your dip speed.
- Incorporate heavy jerk dips to build your strength and familiarity with the barbell’s oscillation.
- Increase the barbell’s oscillation with moderate weights by moving the discs near the ends of the barbell and follow the cadence of the barbell.
 - Alternatively, perform jerks with hanging weights to increase the elastic force of the barbell.
- Face a wall with your toes touching, then dip smoothly until the middle of your patella touches the wall, then change direction aggressively.
- Implement plyometric training such as jumps from boxes and vertical jumps to strengthen your body’s ability to store and transmit elastic energy.



Smooth
Jerk Dip, No
Separation

Adruct
Jerk Dip, Bar
Separation



Extension: Lower Body Coordination

The purpose of the extension for any jerk is to generate upward momentum and speed in the barbell so the body can have an unloaded moment to transition into a split or squat position.

The standard in China is to use the ankles, knees, hips to extend the whole body and maximize the athlete's vertical force, just as in the snatch and clean. The lower body initiates the extension by pushing through the ground to extend the knees and hips simultaneously while maintaining pressure on the ball of the foot.

Immediately afterward, the ankles plantarflex as the athlete continues pushing through the ground to add intensity to the extension. This similarity increases the transferability among these three lifts and allows for more variety in your training. The main difference between the jerk and the snatch/clean is that the shoulders push the barbell upward.

Fault:

The main fault is performing an incomplete extension. Some athletes will simply split or squat from the dip position, which violates the "timing" principle because the transition occurs before fully extending the legs, hips, and/or ankles. Usually, beginners perform this mistake because they focus more on getting under the barbell rather than creating enough space to catch it. Other athletes shorten their movement to provide a false sense of speed.

In any case, your legs cannot push powerfully against the ground to transfer force through your body, which violates the "fast" principle. Compensating by tensing your upper body further reduces your ability to accelerate the barbell and disrupts your timing by forcing your arms to push the excessively high.

Coaching Tips:

- Perform jerk dips to build muscle memory for standing up completely after the descent.
- Practice jerk drives variations to focus on coordinating your legs and ankles, such as:
 - Jerk drive with a pause at the extension and keeping the barbell connected to the shoulders.
 - Jerk drives without pushing the barbell with the arms but allowing the barbell to lift off the shoulders.
- Imagine the extension as performing a vertical jump without leaving the ground.



Full
Extension



Incomplete
Extension



Catch: Internal Rotation Overhead

The overhead position determines how quickly the arms lockout, which muscles and joints support the barbell overhead, and the overall balance and stability of the jerk.

The standard in China is to internally rotate the arms as the barbell passes overhead. In the rack position, the forearms point diagonally towards the athlete with the shoulders externally rotated. During the extension, athletes exert an internal force through the arm to stop the barbell's backward momentum and align it with the wrist, elbows, shoulders, and base of the neck. This alignment maximizes overhead support because it retracts the back muscles to absorb the load while blocking the arms.

Fault:

In the West, some athletes push along the diagonal direction of the forearms. Following this line violates the "stable" and "close" principles because it places the barbell behind your body and, sometimes, beyond the heel. To avoid falling backward, many athletes arch their lower back to push their torso forward. This position overloads your lower back and stretches your abs, which reduces their ability to stabilize. The barbell pulls on your elbow joint while your humerus pushes forward to overpower the barbell, which can damage the soft tissues in these joints.

Continuing to externally rotate overhead also violates the "timing" principle because the barbell travels a longer path to reach the same height while the requirements for your lower body do not change. Some athletes catch with bent arms while others extend the arms but then re-bend their elbows due to this inaccurate timing.

Coaching Tips:

- Point your elbows behind you and squeeze your shoulder blades together as if you are trying to hold a pen placed vertically with your midback.
- Imagine turning your hands and arms away as if pressing against walls.

Internal
Rotation



External
Rotation



Catch: Wrist Position Overhead

During any type of jerk, your wrists influence the barbell location overhead, which affects your balance, stability, and ability to support weight overhead comfortably.

As in the snatch, the standard in China is to extend the wrist and supinate the forearm while maintaining internal rotation of the elbow as the barbell passes overhead. This movement aligns the barbell with the wrist, elbow, shoulder, and base of the neck. During the split jerk, this alignment includes the torso and hip; during the squat jerk, this alignment includes the midfoot.

In both cases, movement creates external torque in the wrist, which counters the internal torque of the elbow to provide stability and support overhead. Additionally, this position places the barbell over the base of the wrist, where athletes can push comfortably and forcefully.

Fault:

The most common fault is to extend the wrists without creating torque, which places the barbell in your palm instead of the base of your wrist. This location makes a gap between the barbell and your arm, which violates the “close” principle. This gap limits the weight you can support comfortably overhead because the barbell resistance increases and your wrist must stretch to absorb this greater stress. Regardless of jerk style, your torso might lean forward to balance the barbell, which will increase the load on your shoulder and elbow.

In the West, some athletes catch the barbell with the wrists in a neutral position. This position violates the “stable” principle because the wrist can move forward or backward and has a great range of motion. Some athletes learn to catch with neutral wrists while others arrive at this position due to gripping the barbell tightly and/or changing their rack position during the jerk dip, so they cannot block their arms quickly.

Coaching Tips:

- You can find this position by lifting your arm overhead and turning your hand so your thumb points towards you. From here, turn the hands away from your body so that the base of your thumbs towards the ceiling.
- Imagine pushing your wrists diagonally towards the ceiling.



Wrists Extended
and Torqued



Wrists Extended
Only



Split Jerk





Extension: Upper Body Coordination

The depth of the catch during the split jerk is more limited compared to the squat jerk; therefore, the extension heights must differ between them to provide enough room for a stable catch.

The standard in China is to push the barbell about 2/3 of the total distance that the arms must travel to extend. For most athletes, the elbows bend beyond 90°, and the barbell reaches slightly above the forehead. Athletes with short forearms can reach 2/3 of their distance with the barbell at forehead height. This extension incorporates vertical force from the ankles, knees, hips, and shoulders to create room to catch the barbell near its apex.

Fault:

Pushing the barbell to an insufficient height violates the “timing” principle because you reduce the time and space to split. A low height means the barbell descends sooner while accumulating more downward acceleration, which violates the “stable” principle because your arms can bend during the catch. Once your arms bend, the load shifts onto your biceps and anterior deltoids, leading to instability.

Some athletes compensate by bending their knees deeper during the split or sliding their feet farther to create more space to catch. However, this stresses your ankle, knee, and hip joints. Additionally, your torso might flex forward or backward to create space that can stress your shoulders and spine.

Coaching Tips:

- Incorporate jerk drives to practice extending and throwing the barbell to your optimum height.
 - You can also have a partner hold a stick at this height as you practice.
 - Alternatively, place a PVC inside a squat rack at your optimum extension height. Then perform a jerk drive with the end of the barbell perpendicular to the PVC. You should touch the PVC lightly.
- Imagine the extension as performing a vertical jump without leaving the ground.
- Imagine throwing the barbell to the ceiling from your shoulders.



Optimum
Height for
Split Jerk



Too Low



Catch: Foot Balance

Your foot balance determines the width of your split, your torso position, and joint alignment, which affect your overall stability and muscle contraction. So, to catch the most weight overhead, you must find the optimal foot balance.

The standard in China is to land on the ball of both feet during the split jerk. The ball of the foot is a natural braking mechanism to stop the body from falling forward or backward in the shortest time. During the split jerk, the front leg produces a horizontal backward force against the body while the back leg produces a horizontal forward force.

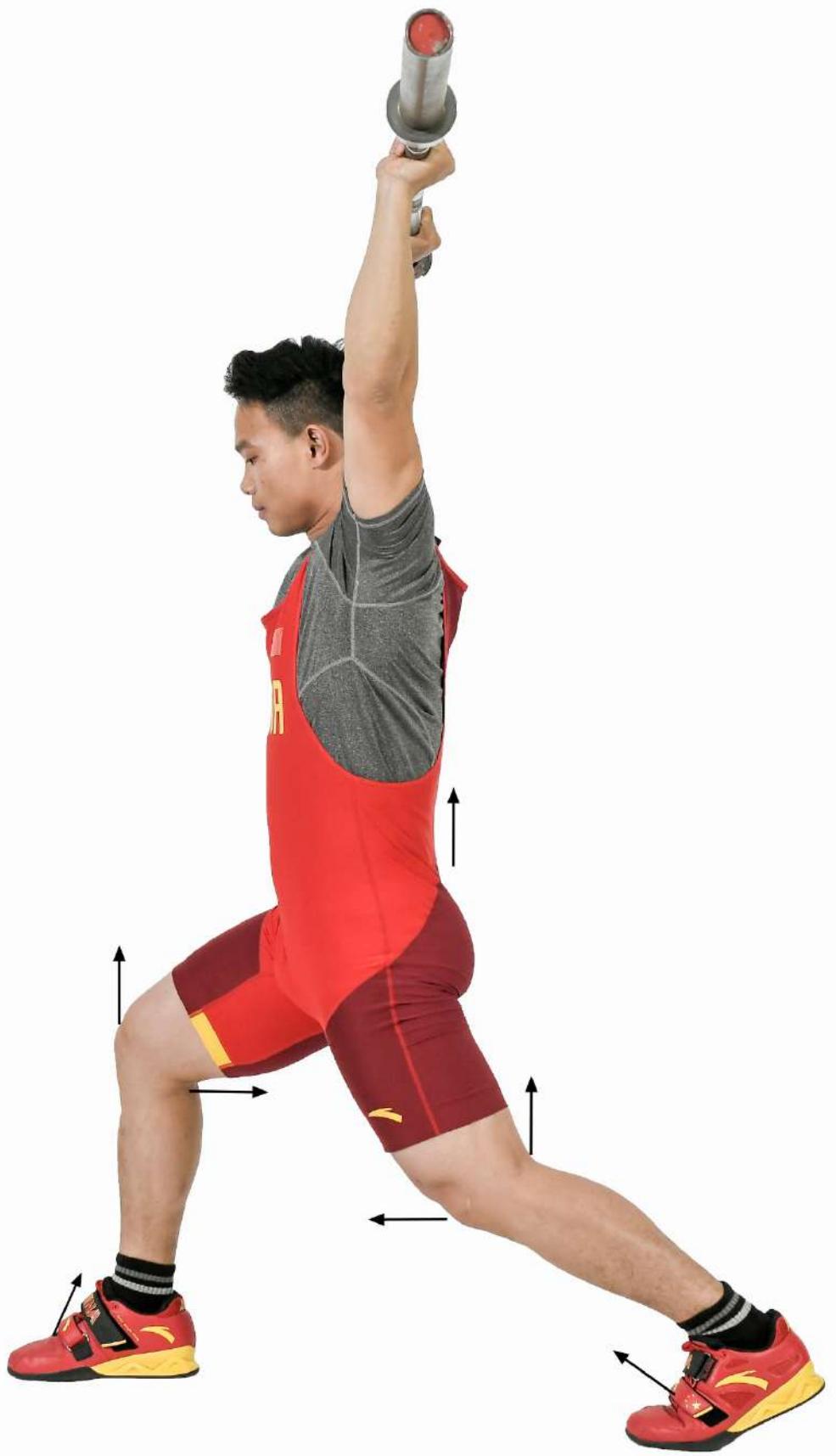
In China, athletes learn to push off the ball of both feet equally to balance the horizontal forces and keep the torso in an upright position. Additionally, athletes learn to push actively against the barbell to counter its downward force. These standards must hold regardless of body shape. Therefore, the knee angles and length of the split will differ for each lifter, but the balance will be the same.

Fault:

The main fault is to shift the balance off the ball of one or both feet. However, there are many ways to lose balance, so the next few pages will discuss various technical issues that can cause an imbalance.

Coaching Tips:

- Technically, the back-leg lands before the front leg, but the split should feel as if both feet land simultaneously.
- Have a partner hold a PVC horizontally across your belly, touching lightly. Then perform a split jerk.
 - If you are leaning against (and bending) the PVC, then you need to push more with your front foot to shift your balance back.
 - If your balance on the front foot shifts to the heel, then bring your foot closer to your body until you are on the ball of the foot.
 - If you have a gap with PVC, then push more with your back foot to shift your balance forward.
 - If your balance on the back-foot shifts to the toes, then bring your back-foot closer to your body until you are on the ball of the foot.



Catch: Back Leg Position

During the split jerk, the front leg and back leg are in different positions to provide equal forces against each other and maintain an upright torso. Your back leg is an important indicator of proper leg positioning.

The standard in China is to bend the back knee maximally while pushing from the ball of the foot. This position engages the rear hamstring and glute to push actively against the rest of the body and prevent it from falling backward. This muscular contraction also extends the rear leg to push upward against the barbell.

Fault:

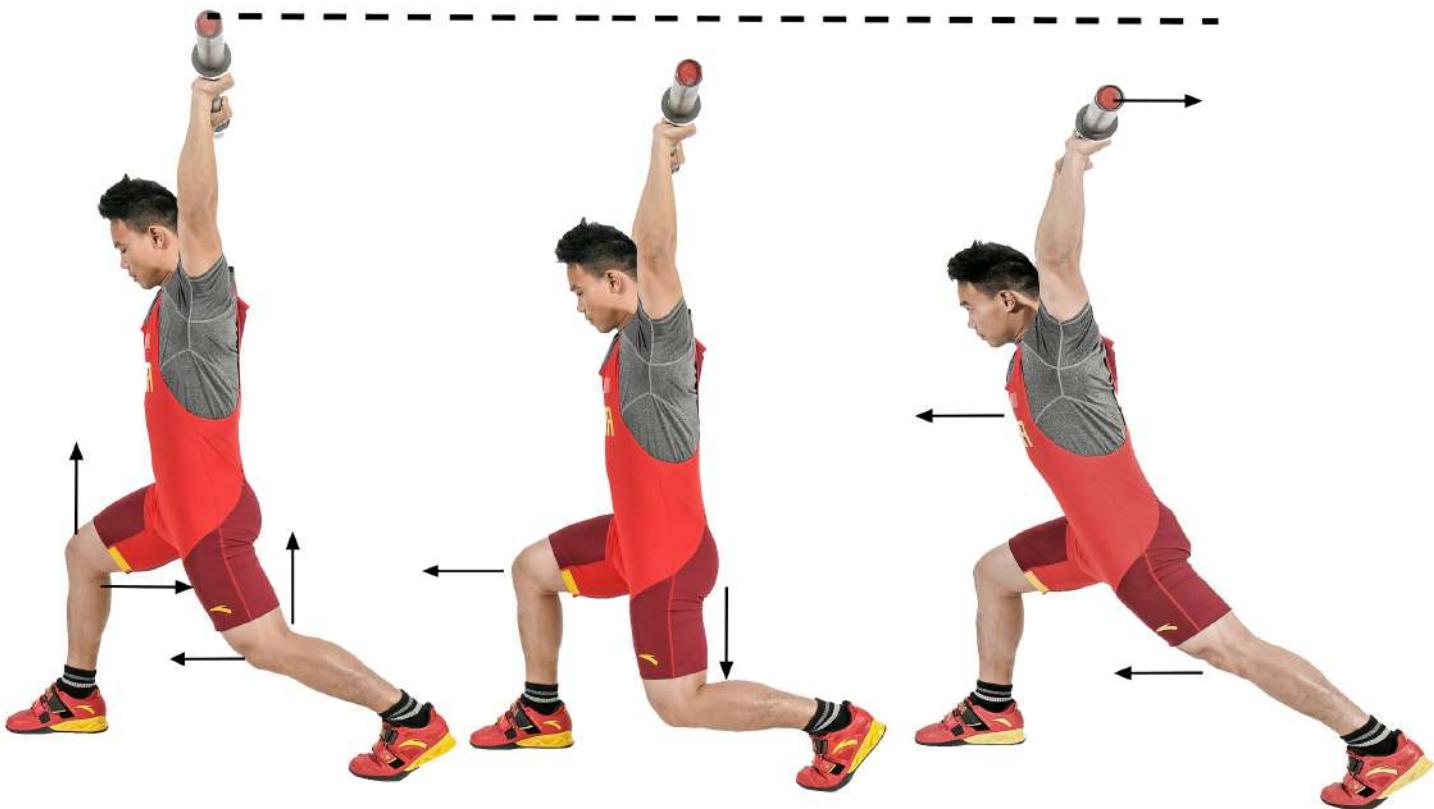
The first major fault is splitting with the back-leg landing in a relaxed position to get under the barbell. In the West, some athletes learn to align the knee with the torso or lift the heel. However, knee alignment depends on your body shape, and heel height depends on your balance, so these are not standard criteria for the split jerk.

Relaxing your knee causes it to fall since it cannot push actively against your bodyweight or the barbell's downward force. If you cannot stop this force, your knee can hit the floor, violating the "timing" principle for your catch. Additionally, dropping your knee can shift the balance of your rear foot toward the toes, which violates the "stable" principle because it reduces the size of your base connected with the ground and decreases stability. As your balance shifts forward, some athletes compensate by flexing their front leg forward, which causes the barbell to move horizontally while overhead, which further increases instability.

The second major fault is overextending the back leg, which occurs either by 1) moving backward during the jerk dip and/or extension or 2) stepping too far with the back leg. In either case, you violate the "close" and "stable" principles because the balance of your back leg is on the toes, which pushes your torso forward and forces your lower back to work against the barbell. Additionally, the hip of the back leg is in a fully stretched position and absorbs the stress from the barbell, which can overstress the hip joint.

Coaching Tips:

- Imagine digging the ball of your foot into the ground.
- Push against the ground as hard as you can.
- Strengthen your ability to push from the ball of the foot by pushing or dragging a sled forward, reverse lunges into a jerk position, press from the split position, sprints uphill, etc.
- Strengthen the hamstrings of your back leg with hamstring slides, glute bridge, and single-leg deadlift.



Standard
Split



Back Leg
Relaxed



Back
Leg too
Extended



Catch: Back Foot Position

Your back foot influences rotational stability and determines how the rest of your body orients itself against the barbell and which muscles absorb the load. You must consistently position your foot so it maximizes the force of your legs and maintains an upright torso.

The standard in China is to point the back foot towards the floor. This position ensures the entire metatarsal area connects with the ground to maximize stability. It also positions the rear leg and hip to extend against the barbell and provide maximal support. Additionally, it maintains the pelvis in a neutral position to stabilize the torso and push the arms directly upward.

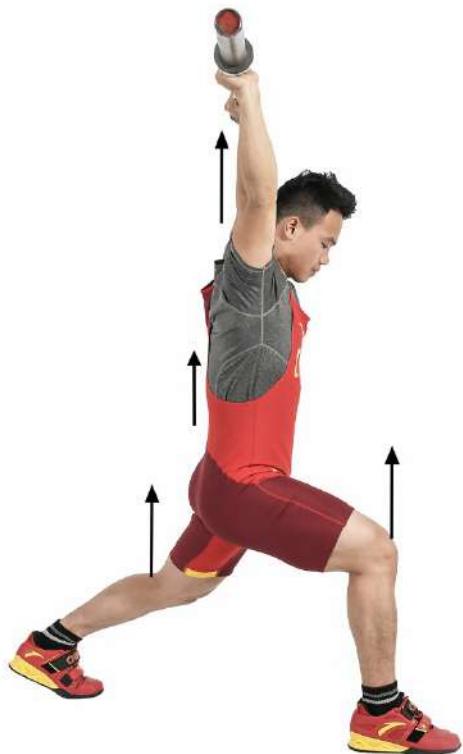
Fault:

For illustrative purposes, assume that your left leg is the rear leg, and it rotates outward. This movement rotates your knee outward, limiting your ability to extend your hip with strong muscles like your glutes, adductors, and hamstrings. Additionally, this rotated position can reduce the connection of your forefoot with your ground. These compensations violate the “stable” principle because your left leg can still push forward from a smaller base.

If your torso follows your pelvis in a counterclockwise direction, then this creates a rotational force on the barbell in the same direction. The left elbow and shoulder must move clockwise to stop the barbell’s momentum, which places them under great stress. Many athletes know to avoid catching in a twisted position, but if you force your torso to remain facing forward while your pelvis rotates, your lower back muscles and spine twist against the pelvis, which puts them in a vulnerable position.

Coaching Tips:

- Place two mats parallel along the lateral side of your feet. Keep the lateral edge of your feet in contact with these mats as you split.
- Imagine pushing the floor away from you with the ball of your back foot.
- Perform static lunges with all toes contacting the ground and facing forward to build hip extension mobility.
 - Perform overhead lunges to increase stabilization demands.
- Perform presses in a proper split position to build muscle memory.



Catch: Front Leg Position

During the split jerk, the front leg and back leg are in different positions to provide equal forces against each other and maintain an upright torso. Your shin angle is an important indicator of proper leg positioning.

The standard in China is to maintain the front shin perpendicular to the floor while pushing from the ball of the foot. This position allows the front leg to engage the quadriceps and push actively against the rest of the body to keep it from falling forward. This muscular contraction also extends the front leg to push upward against the barbell.

Fault:

Pointing your shin points backward usually happens either by 1) pushing your front leg so much it overpowers the force of your back leg or 2) stepping out too far with the front foot. In either case, the balance of your front foot shifts towards your heel, which can lift your toes and reduce your connection with the ground and violates the “stable” principle.

Additionally, pointing your shin backward violates the “close” principle because your leg pushes against your torso and hyperextends your lower back. To avoid falling, you must shift the barbell forward, but this compensation stresses your anterior deltoids. Other athletes compensate by dropping their back heel to increase their connection with the ground, but this is unstable until your entire foot lands on the floor.

Pointing your front shin forward is another type of fault, which occurs by 1) moving forward during the jerk dip and/or extension or 2) stepping too short with the front leg so your back leg overpowers it. In either case, your front knee must flex to create room for your body, which violates the “close” and “stable” principles. Your balance shifts onto the toes and can even lift your front heel, which reduces your connection with the ground and decreases stability. Some athletes hyperextend their lower back to avoid dropping the barbell forward, but this increases stress on the shoulders and lower back.

Coaching Tips:

- Imagine digging the ball of your foot into the ground.
- Imagine pushing the ground away from you as if avoiding a fall.
- Set up a band horizontally across a squat rack and step away so you can perform a proper split. Then perform a split jerk so your knee touches the band lightly.
- Strengthen your ability to push from the ball of the foot by pulling a sled backward.

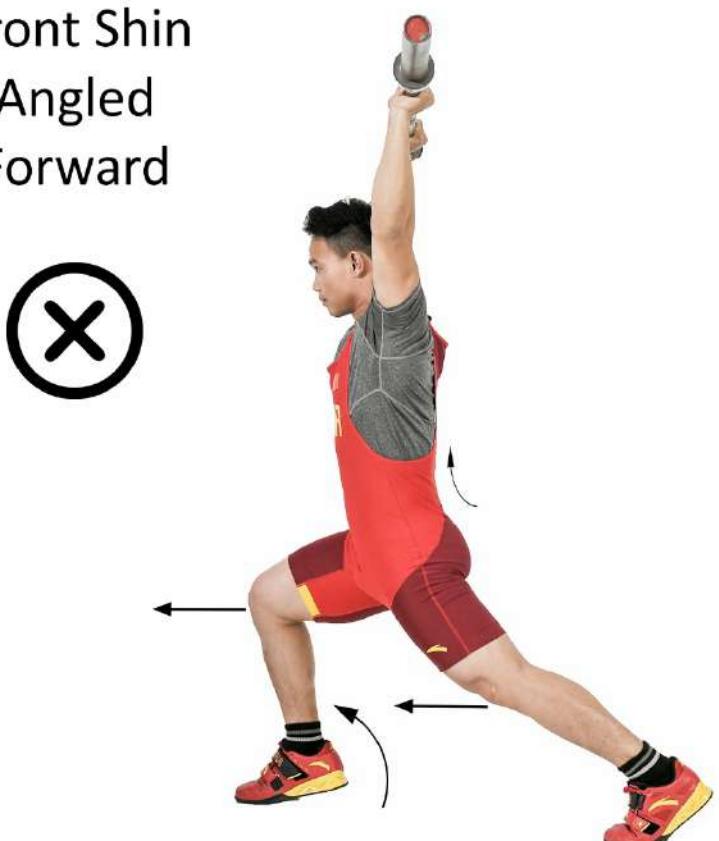
Front Shin
Perpendicular
to the Floor



Front Shin
Angled
Backward



Front Shin
Angled
Forward



Catch: Front Foot Position

The front foot influences lateral stability and affects how the rest of your body orients itself against the barbell and which muscles absorb the load. You must consistently position your foot so it maximizes the force of your legs and maintains an upright torso.

The standard in China is to point the front foot forward. This position produces the most force in the shortest time because the ball of the foot is a natural braking mechanism. It also connects the entire metatarsal area with the ground to maximize lateral stability. Additionally, the front leg can push against the barbell and providing maximal support.

Fault:

The first type of fault is to land on the outer edge of your front foot, which can occur if your front leg moves diagonally and outward, or you push the outer edge of your front foot into the ground to stop yourself. This position violates the “stable” principle because it reduces pressure off the inner edge of your foot and the base available to push from, creating compensations further up your leg.

For example, your front knee must rotate outward past the foot to decelerate the split, but this can stress the knee laterally and posteriorly. Some athletes may experience hip pain because the foot instability causes their entire body to shift laterally, which excessively stretches and loads the hip.

The second type of fault is to land on the inner edge of your front foot, which violates the “stable” principle because it can raise the lateral edge off the floor and reduce your stability. While this can occur due to a narrow split width, it can occur with a normal split width due to front foot instability and lack of motor control. This leg position can overstress the medial aspects of the knee as well as the hip and groin.

Coaching Tips:

- Use the same tips suggested for the back-foot position.
- Reactive neuromuscular training (RNT) lunges in the split position can help.
 - If your right is your front leg and it collapses inward, then position your left side toward the squat rack.
 - If your right is your front leg and collapses outward, then position your right side toward the squat rack.



Front Knee is
Aligned with
the Foot



Front Knee is
Aligned
Outside the Foot



Front Knee is
Aligned
Inside the Foot



Catch: Leg Activation

During the split jerk, your knees must bend to create enough room to catch the barbell, but they must also actively push against the barbell to counter its downward force. You must flex the knees to a depth that achieves both goals.

The standard in China is to bend knees as much as possible while balancing on the ball of both feet. This position will create the most space to drop under the barbell while maintaining maximal stability. From here, athletes push off the ball of the front foot to contract the quadriceps of the front leg, and they push off the ball of the rear foot to contract the rear hamstring and glute. These contractions should feel simultaneous and be equal in magnitude to maintain the torso vertical. Due to differences in body shape, the knee angles will differ among lifters, so the criteria focus on balance and muscular contraction.

Fault:

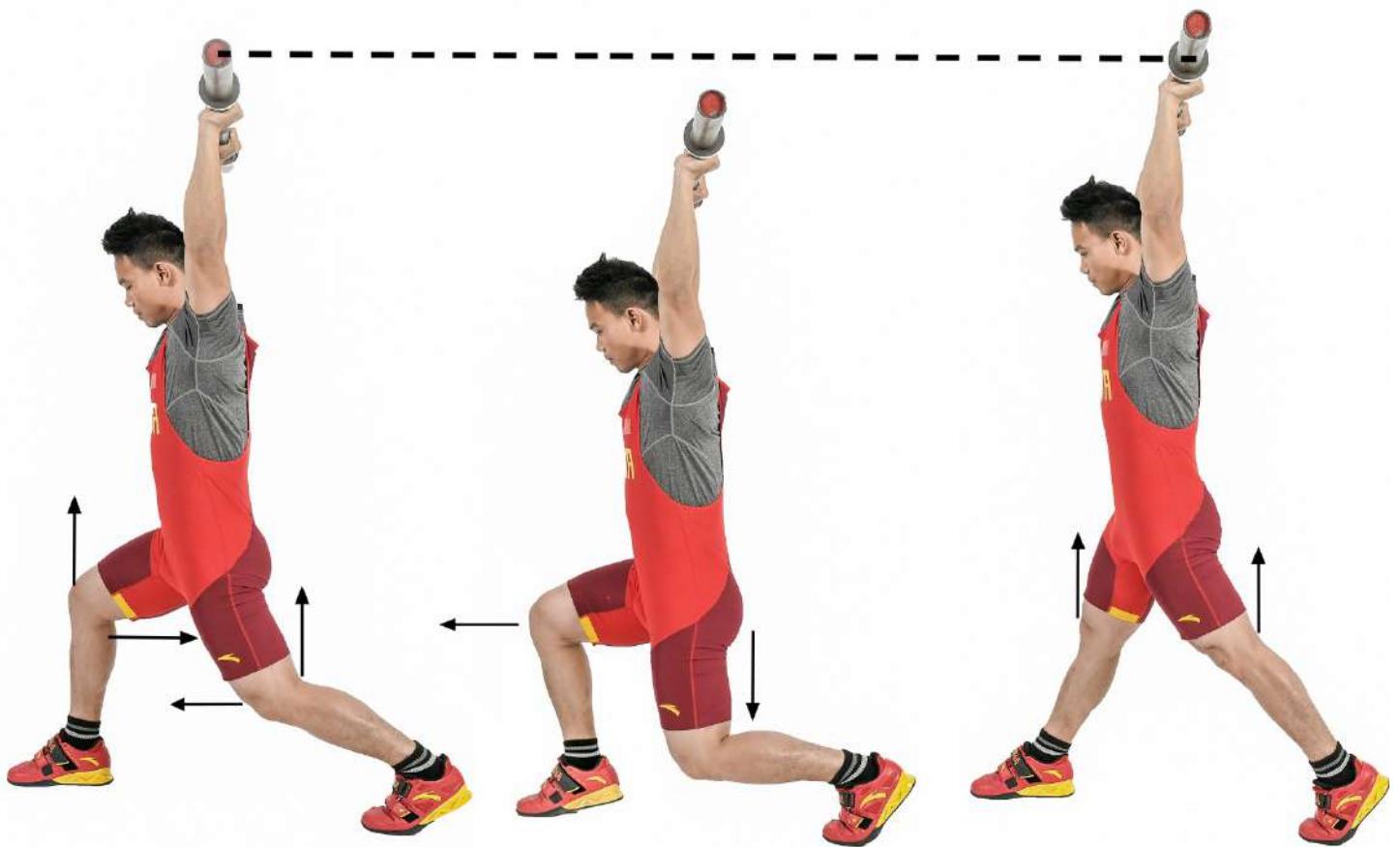
Some athletes land with relaxed legs or bend their knees excessively to maximize the space to get under the barbell. This strategy violates the “low” and “stable” principles because the balance of your rear leg shifts forward to the toes as the knee drops excessively. Additionally, your front knee flexes forward to compensate for this forward shift and lift your front heel. These changes in your feet reduce your connection with the ground, which reduces your stability.

Excessively bending your knees shifts your entire body forward because your front knee cannot produce any backward force since it is creating extra space due to the force from the back leg. If the barbell follows your body, it will be difficult to stop its forward and downward momentum and will stress your shoulder and elbow. If the barbell remains behind your torso, it will still pull on your elbow and shoulder joints, which can cause injury.

Beginners occasionally jerk without flexing the legs. While this maximizes the push against the barbell, it violates the “low” principle because it does not create room to catch the barbell. Since the barbell’s maximal attainable height decreases as the weight increases, your lift will be limited more quickly using this strategy.

Coaching Tips:

- Imagine digging the ball of your feet into the ground.
- Imagine spreading the floor apart forcefully with your legs when your feet land.
 - Perform static lunges or presses from a split position while maintaining this leg action.



Standard
Split



Legs too
Flexed



Legs too
Extended



Catch: Pelvis Position

The pelvis receives little attention, but its position affects your core stability and balance. Therefore, it is important to align it properly to avoid injury and maximize your support overhead.

The standard in China is to maintain a neutral pelvis in the split position, allowing the rear glute and hamstring to contract against the quadriceps of the front leg. These contractions help keep an upright torso, facilitating core stabilization and aligning the hip, shoulder, elbow, and wrist with the barbell. Therefore, a neutral pelvis will ensure the correct balance and maximize your stability.

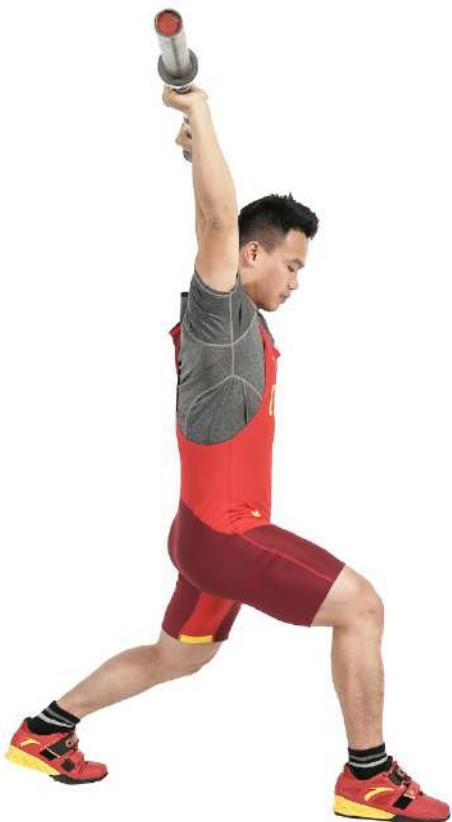
Fault:

Beginners sometimes posteriorly tilt their pelvis to avoid moving their torso forward; however, this flexes your spine and contracts your abs, violating the “close” principle by moving your torso away from the barbell. This flexion shifts your balance backward, which moves the support of your front leg from the ball of your foot towards your heel. This change can lift your toes and reduce your connection with the ground, which violates the “stable” principle.

Some athletes anteriorly rotate their pelvis to ensure the barbell is behind their head. However, this tilt hyperextends your lower back and shifts your torso forward, violating the “close” principle. This extended position with weight overhead can overload your lower back. Additionally, it stretches your abs, which can reduce your stability under the bar. Sometimes, your arms will catch diagonally, which forces your humerus to push forward to overpower the barbell. However, this movement can put extra stress on your shoulders and elbows.

Coaching Tips:

- Imagine your pelvis as a bowl facing up and full of water. As you split, the bowl should drop straight down without letting the water spill.
- Have a partner hold a PVC across your abs. Memorize the sensation of the stick and maintain it during the jerk.
 - If you are pressing against it after the jerk, posteriorly rotate your pelvis.
 - If you have a gap with the PVC, anteriorly rotate your pelvis.



Neutral
Pelvis



Posteriorly
Tilted
Pelvis



Anteriorly
Tilted
Pelvis



Catch: Jerk Width

The width of the split jerk affects the distance your legs must travel and the position of the joints, which affect the timing of your split and stability. The width also affects your ability to push against the barbell and determines which muscles absorb the stress.

The standard in China is to split the legs while maintaining the hip-width stance established in the start position. This width allows the legs to split along straight lines, which is the shortest distance for them to travel and hence the fastest way to arrive at the split stance. Additionally, this width is enough to maintain balance along the midline of the feet, which provides lateral stability.

Fault:

The first type of fault is to split the legs inward and diagonally, so the stance is less than hip-width. Even if the length of the split is the same, a diagonal distance is longer than a vertical distance, so it will take longer to split your legs. Because the split takes longer, it will be difficult to catch the barbell near its apex, which means you must catch the barbell while it produces downward momentum.

Therefore, a narrow split violates the “timing” principle and creates more stress on the joints and muscles. Additionally, a narrow split violates the “stable” principle because it places excessive pressure on the medial side of your feet. This pressure can cause your knees to cave inward and stress the knees and hips.

The second type of fault is to split the legs outward and diagonally, so the stance is greater than hip-width. A wide split creates the same timing issues as a narrow split and can even exacerbate them because there is less limitation to splitting wide. This lateral movement can violate the “low” principle because it places your back leg in a difficult position to bend. It can also create a lot of stress on your groin.

Coaching Tips:

- Place two mats parallel along the lateral side of your feet and stay within these lines as you split.
- Focus on splitting your legs straight forward and backward.
- Perform static lunges from an optimal split position to build strength and muscle memory.
 - Extend your legs until they straighten, then flex until you reach your split position.
- Incorporate jerk dips and jerk drives to avoid rushing into the split position.



Standard
Split



Narrow
Split



Wide
Split



Catch: Jerk Symmetry

The symmetry of the split jerk affects the distance your legs must travel, which influences the timing of your split and push against the barbell.

The standard in China is to split the legs symmetrically along the hip-width of the athlete. Technically the rear foot contacts the ground before the front foot, but a symmetrical split reduces the landing time between the feet, so it feels simultaneous to the athlete. This timing allows the arms to push at the same time and catch the barbell evenly.

Fault:

Asymmetry in the split jerk can occur from imbalances in the upper body, lower body, or both. In terms of the upper body, movement restrictions or strength imbalances preventing one arm from raising overhead can result in an uneven catch. These issues violate the “timing” principle because one side will finish catching sooner than the other side. There is also a potential risk for injury on either shoulder due to the asymmetrical loading.

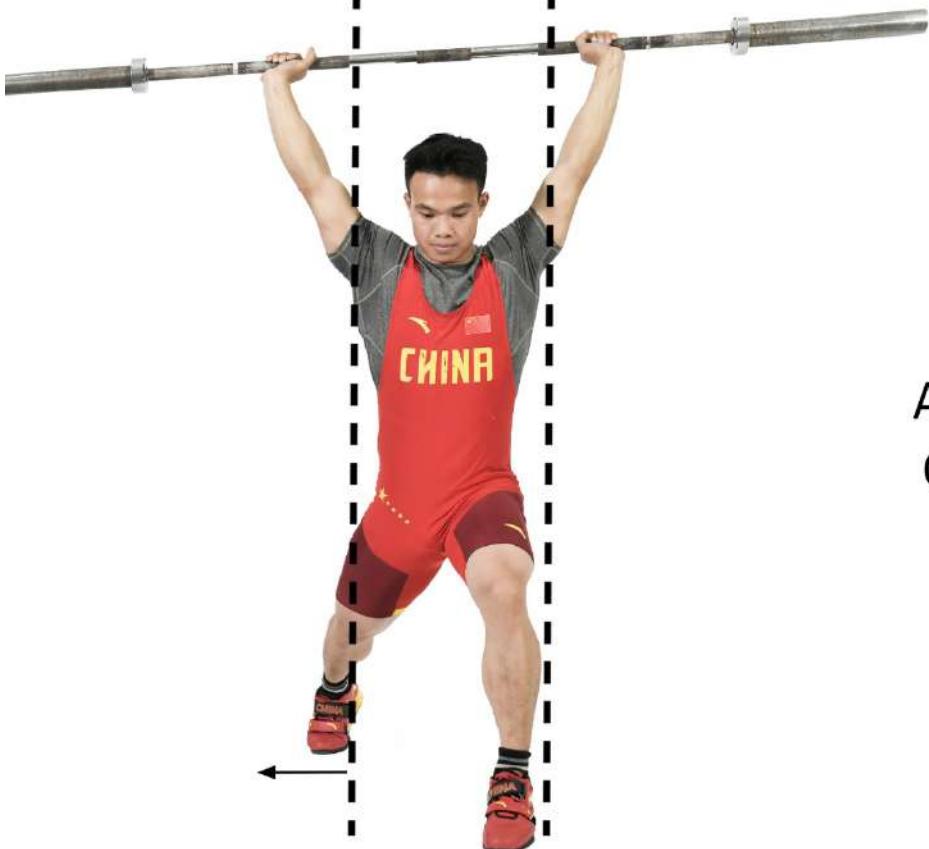
An asymmetrical catch can result from splitting your rear leg outward and diagonally, so the stance is greater than hip-width. This lateral movement violates the “timing” principle because it increases the time it takes to finish the split and delays catching the barbell near its apex. This longer time needed to catch violates the “low” principle because it forces your body to drop lower and places your back leg in a difficult position to bend. Additionally, the body might move laterally in the direction of the back leg, which can throw off your balance and violate the “stable” principle.

Coaching Tips:

- Perform single-arm presses with a dumbbell or kettlebell on your weaker side to reduce strength imbalances.
 - Use a split position to incorporate the rear leg.
- Place two mats parallel along the lateral side of your feet and stay within these lines as you split.
- Perform the following movements to improve rear leg strength and coordination:
 - Standing hip extension,
 - Single-leg back extension,
 - Reverse lunges,
 - 5 – 10m sprints, make sure your rear leg during the takeoff is the same as your rear leg during the jerk.
- Perform reverse lunges into your split position to focus on extending your leg directly behind you.



Symmetrical
Catch & Split



Asymmetrical
Catch & Split



Catch: Head Position

Your head position influences your torso position, which affects the length of your split and knee flexion. It also affects how you support the barbell overhead and which muscles absorb the stress.

The standard in China is to lower the head at 45° when supporting the barbell overhead. This movement allows the athlete to move the barbell backward and retract their back muscles to support the weight. This retraction helps align the barbell with the wrist, elbow, shoulder, and hip joints, providing maximum stability. Athletes with shorter femurs relative to their shins can even align their rear knee with the barbell.

Fault:

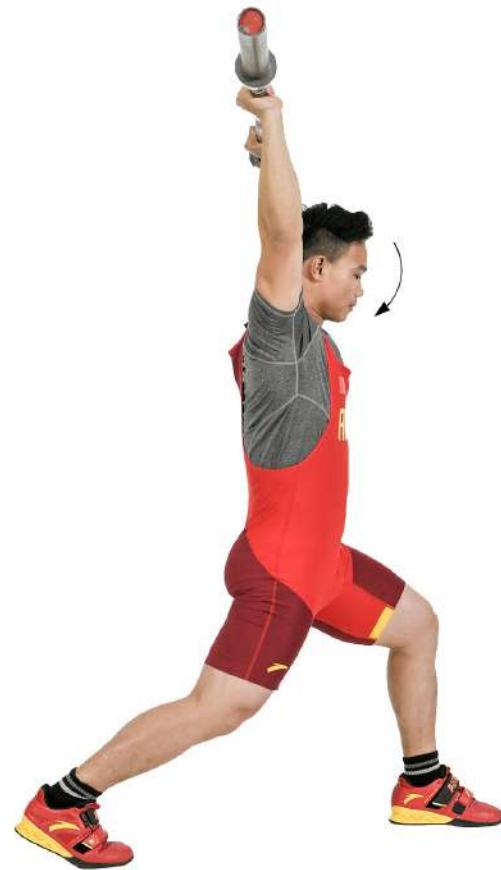
Some athletes push their head forward during the catch to guarantee that the barbell is behind the head. However, this movement violates the “close” and “stable” principles because it shifts your torso forward, aligning your arm diagonally rather than vertically with the barbell. This misalignment forces your humerus to glide forward, which can stress your shoulders and elbows, and increase the instability of the catch.

Another fault occurs when athletes look up as they catch. Lifting your head shifts your balance backward and extends your neck and lower back near their end range of motion, which violates the “close” principle and can overload these areas. Additionally, lifting your head shortens your levator scapulae, which rotates your shoulder blade downward and limits your ability to raise your arms overhead. Therefore, the barbell will be in front of your head and overstress your shoulders.

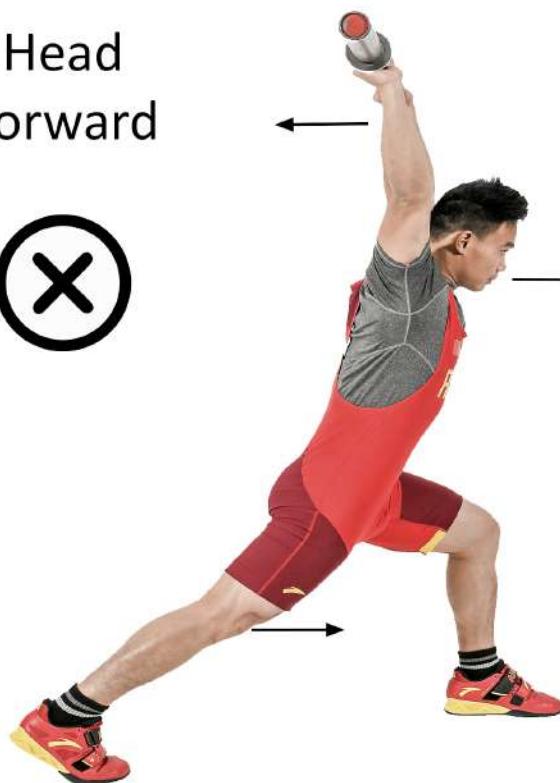
Coaching Tips:

- If you look up, place a piece of tape on the ground about 1m away from you. Try to finish your catch and look at the tape at the same time.
- If you lean forward, have a partner hold a PVC across your abs. Perform a jerk without leaning into the PVC.

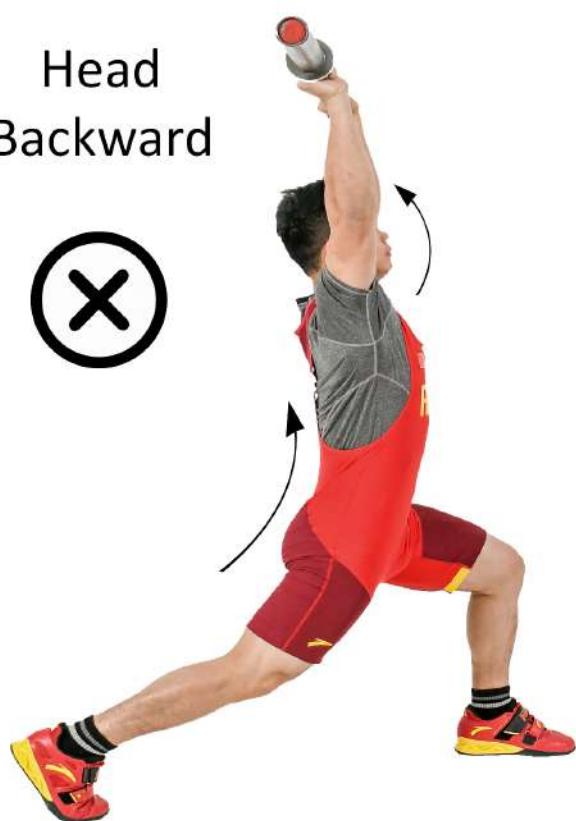
Head
Down



Head
Forward



Head
Backward



Split Jerk Recovery

The goal of the recovery is to stand up in a consistent way that minimizes horizontal movement on the barbell to maximize your stability.

The standard in China is to recover using two steps, each covering half the distance of the split. In this process, the front foot should recover first because the front leg is flexed and more conducive to extending while the back leg is more extended and conducive to stabilizing. After the two steps, the feet should align with each other. This recovery is the most stable way to stand because it maintains the torso's position and minimizes horizontal forces on the barbell.

Fault:

There are several major faults in the recovery, all of which violate the “stable” principle. The first fault occurs by taking one large step backward with the front leg to recover. The distance is too long to step naturally, so you must push forcefully and lean back to create backward momentum. If your rear heel drops, then there is no forward force, so it is easy to drop the barbell behind. If you do not drop your back heel, then this is still problematic because when you step backward, the ball of your foot strikes the ground first. So, you end up in a position balanced on the ball of both feet, knees flexed, and torso vertical or arched back, which creates forward momentum on the barbell and can cause it to fall forward.

The second fault occurs by taking many small steps back rapidly, which creates backward momentum as in the previous case, but the steps allow your back heel to drop. Once this occurs, any further steps push your balance towards the heel and make it easy to drop the barbell behind. The final fault is to take a large step forward with the back leg during the recovery. This recovery creates forward momentum on the barbell and body because your front leg must stop exerting a backward force. Without this counterforce, it is easy to drop the barbell forward.

Coaching Tips:

- Perform split jerk recovery in a squat cage with the barbell placed across one end of the cage and your body aligned with the barbell. If your recovery is balanced, then the barbell will stay in contact with the cage.
- After the split, have a partner hold a stick across your lower back. If your recovery is balanced, then you will not push against the stick.



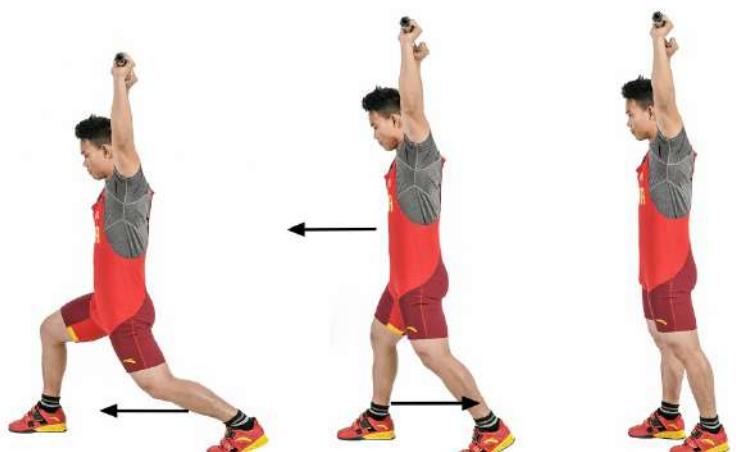
Half-Half
Recovery



1 Large
Backward Step



Many Steps
Backward



Forward
Step First



Squat Jerk



力到无能为力



Extension: Upper Body Coordination

The squat jerk has a longer range of depth to catch the barbell compared to the split jerk. However, since the squat jerk has a narrower base in the forward-backward direction compared to the split jerk, the extension must be precise to ensure a stable catch.

The standard in China is to extend onto the ball of the foot and push the barbell to the height of the nose before descending to catch. This height is lower than the split jerk because the barbell drops a greater distance in the squat jerk and creates about seven times more momentum during the catch, so a lower height reduces this stress. This extension incorporates vertical force of the ankles, knees, hips, and shoulders to lift the barbell upward, which provides room to catch it near its apex. It also maximizes the connection with the ground, which allows athletes to drop faster.

Fault:

Many athletes rush to get under the barbell during the squat jerk, so they extend but do not push on the barbell. This incomplete extension violates the “timing” principle because the barbell begins to descend sooner compared to a complete extension. This descent gives the barbell more time to accelerate downward and is more stressful to catch. Additionally, if you do not reach your squat position in time, you cannot block your arms or catch in a stable squat position.

Another mistake is to push the barbell too high, which violates the “timing” principle and results in a power jerk + overhead squat. This two-part movement wastes energy and introduces instability by attempting to squat after the catch. Some athletes use this extension because they power jerk in competition, which is a special case to use this type of extension. Other athletes use this extension to increase the transfer between the power jerk and split jerk. This strategy is controversial because it reduces the transfer of the power jerk to the squat jerk. In this case, the coach should evaluate the tradeoff.

Coaching Tips:

- Incorporate jerk drives to practice extending and throwing the barbell to your nose.
 - Have a partner hold a stick at this height as you practice extending.
 - Alternatively, place a PVC inside a squat rack at the same height as your nose during extension. Then perform a jerk drive with the end of the barbell perpendicular to the PVC. You should touch the PVC lightly.
- Imagine the extension as performing a vertical jump without leaving the ground.



Optimum
Height for
Squat Jerk



Too Low



Too High



Transition

It is difficult to perform proper full lifts early in your training career. The power jerk is part of the technique progression for the squat jerk and allows athletes to catch at quarter squat or half squat height to get more comfortable catching in low positions.

The standard in China is to actively dorsiflex the ankles to slide the feet downward and laterally into a back squat stance after the extension. Athletes use their back squat stance regardless of the depth of the catch, which makes the squat jerk improves from direct training and the snatch and the clean (and vice versa). This transferability develops muscle memory faster.

The slide helps minimize the time the feet disconnect from the floor and puts the legs in their strongest position to apply force against the barbell. As the slide occurs, the arms rotate inward while the shoulders and upper trapezius continuing pushing against the barbell. The feet will finish sliding before the lockout, but these movements should feel simultaneous to the athlete.

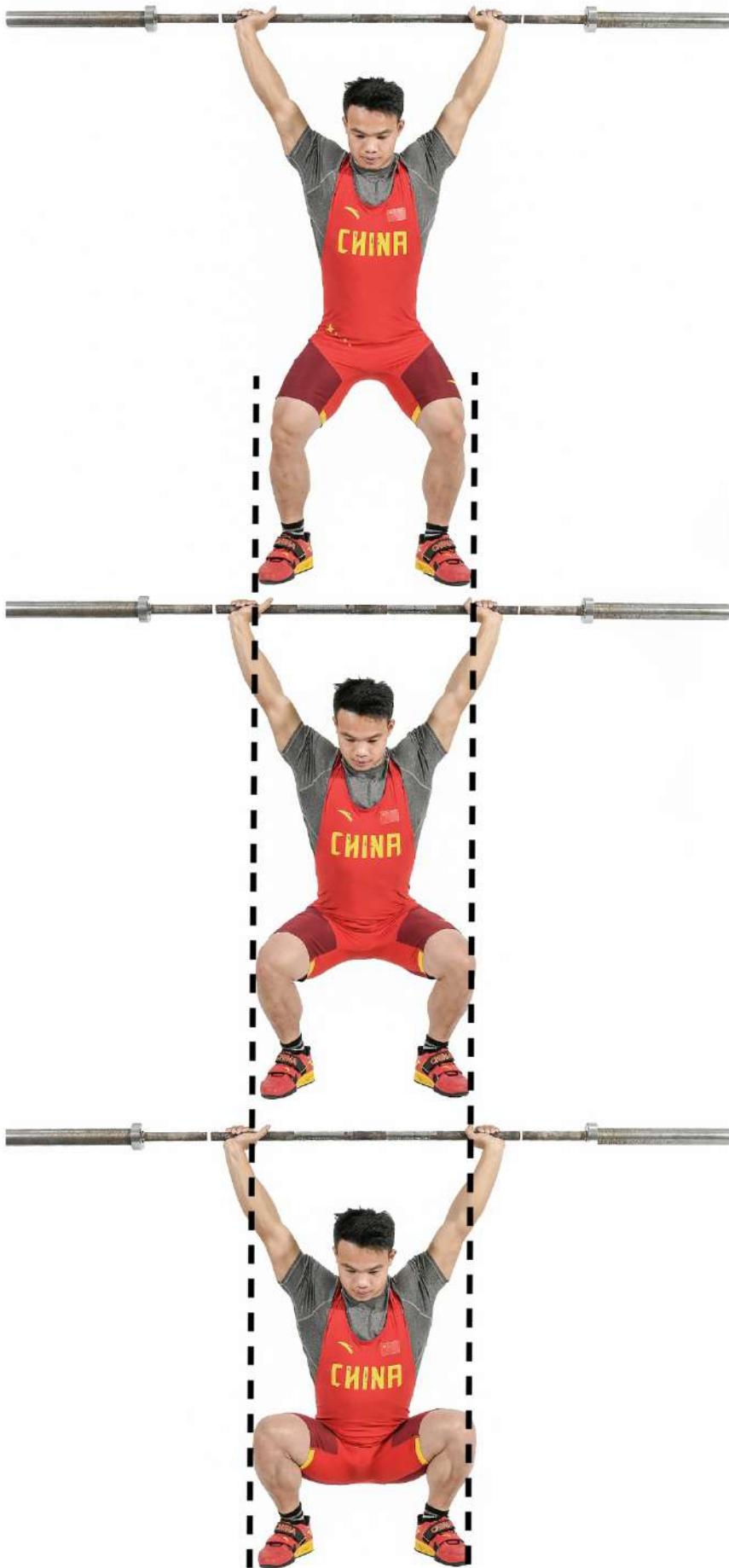
Fault:

If you change the stance of your catch based on depth, then this will reduce the transferability of each movement. Your muscle memory will be biased towards the position you practice the most often; however, it will take longer to develop such memory since the body is learning how to catch in different positions.

Jumping off the ground as the barbell elevates is a common fault in the West. It lengthens the time in the air where the body cannot apply force. This delay violates the “timing” principle and can prevent you from catching the barbell.

Coaching Tips:

- Imagine lowering your torso straight down, between your legs.
- Place a piece of tape on the side of your waist and focus on descending the tape vertically.
- To ensure the same stance, perform a back squat, and ask a partner to measure your stance by placing discs, blocks, or mats on the outer edge of your feet.
 - Perform power jerks, half jerks, and squat jerks so the outer edge of your feet lightly touch the plates.
 - If your feet hit the discs forcefully, either reduce your slide or consider squatting wider during your squat sessions.
 - If your feet do not touch the discs, then increase the width of your slide or consider squatting narrower during your squat sessions.



Same Width
to Catch for
Power Jerk,
Half Jerk, and
Squat Jerk



Catch: Power Jerk

The power jerk can transfer to the snatch due to the overhead squat position. However, to realize that transfer, the balance during the catch must be as close as possible to those lifts. Because your lower body flexion is limited, and the catch position is high, shifts in your upper body have more influence on your balance.

The standard in China is to flex the knees and hips simultaneously with the barbell balanced over the midfoot. This position aligns the wrist, elbows, and shoulders over the midfoot, which maximizes the support against the barbell. Due to its similarity to the snatch, this position can train the snatch and the jerk simultaneously.

Fault:

The first fault occurs when your knees bend without enough hip flexion to counterbalance. Usually, beginners perform this movement when their balance during the jerk dip is too far towards their heels, or they extend too long and push the barbell too far back. In this case, your torso is vertical to prevent the barbell from moving further backward. So, the only way to get under the barbell and counter the backward force of the barbell is to flex the knees. This compensation violates the “stable” principle by placing tremendous stress on your knees and causing you to run forward during the recovery. Some athletes can avoid falling/running forward by hyperextending their back and moving the barbell slightly further back. This compensation relaxes your abdominals and shifts the stress onto your back.

Another common fault is to flex your hips without enough knee flexion to counterbalance, which violates the “low” principle. Athletes usually reach this position because it provides a false sense of getting under the barbell, but other athletes cannot flex their knees forward due to stiff ankles. Excessive hip flexion causes the torso to move forward, aligning the arm diagonally with the barbell to maintain balance over the midfoot. However, this compensation places the shoulder in a vulnerable position and can lead to shoulder impingement. And it is a dangerous position if you must drop the barbell because it will take longer for you to get out of the barbell’s way.

Coaching Tips:

- Perform the following lifts while emphasizing an upright quarter squat position:
 - Presses behind the neck at quarter squat height,
 - Power jerk recoveries,
 - Partial overhead squats in a squat rack,
 - Drop snatch to quarter squat height with a jerk grip,
 - Power jerks with a pause at the catch to build muscle memory.



Knees
and Hips
Flexed



Mainly
Knees
Flexed



Mainly
Hips
Flexed



Catch: Head Position

Your head position determines your balance, which influences your body position and barbell location, both of which affect muscular contraction when supporting weight overhead.

The standard in China is to lower the head down to about 45° when supporting the barbell overhead during the squat jerk and power jerk. This position brings the head forward slightly and moves the barbell. This movement not only makes it easier to align the barbell over the midfoot during a squat, but it maximizes stability by retracting the back muscles to support the weight.

Fault:

Beginners sometimes look up as they catch to keep their torso extended and control the barbell. Usually, this head position compensates for insufficient ability to place the barbell over the base of your neck. However, placing the barbell in front of this spot will shift the load from your back muscles to your arms and shoulders. This placement is also in front of your balance point, which violates the “close” and “stable” principles. Some athletes can compensate by lifting their head further to extend their neck and spine, which shifts their balance backward. However, this compensation can place the neck and upper back near the end of their range of motion and overload these areas.

In China, sometimes an athlete will push their head forward to guarantee the barbell is behind their head. However, this movement violates the “close” and “stable” principles because it can shift their balance excessively forward. Leaning forward produces the opposite result compared to a power jerk because torso flexion is more limited during the squat jerk. As your cervical spine flexes, it is easy to flex the thoracic and lumbar spine and align the arms diagonally with the barbell to preserve balance. However, this alignment stresses the shoulder.

Coaching Tips:

- Place a piece of tape on the ground about 1m away from you. Try to finish your catch and look at the tape at the same time.
 - Pause during your catch to adjust your head position.
- Perform the following movements with your head down at 45° to muscle memory:
 - Presses behind the neck at various squat height (quarter, half, full),
 - Behind the neck push press,
 - Power jerk recoveries and squat jerk recoveries,
 - Behind the neck power jerk + overhead squat.



Head
Down



Head
Up



Head
Forward



Catch: Squat Balance

Compared to the snatch and clean, the barbell is furthest from the ground during a squat jerk, making the catch most sensitive to horizontal disturbances. Catching the most weight with the least amount of stress on the joints requires a stable and low overhead squat position.

The standard in China is to align the wrists, elbows, and shoulders while keeping the hips as close as possible to the ankles. This alignment allows an upright and low squat, which places the load away from the lower back and onto the quadriceps, glutes, and midback muscles. This position enhances stability by bringing the barbell as close to the ground as possible. It also aligns the barbell over the midfoot, which maximizes the connection with the ground.

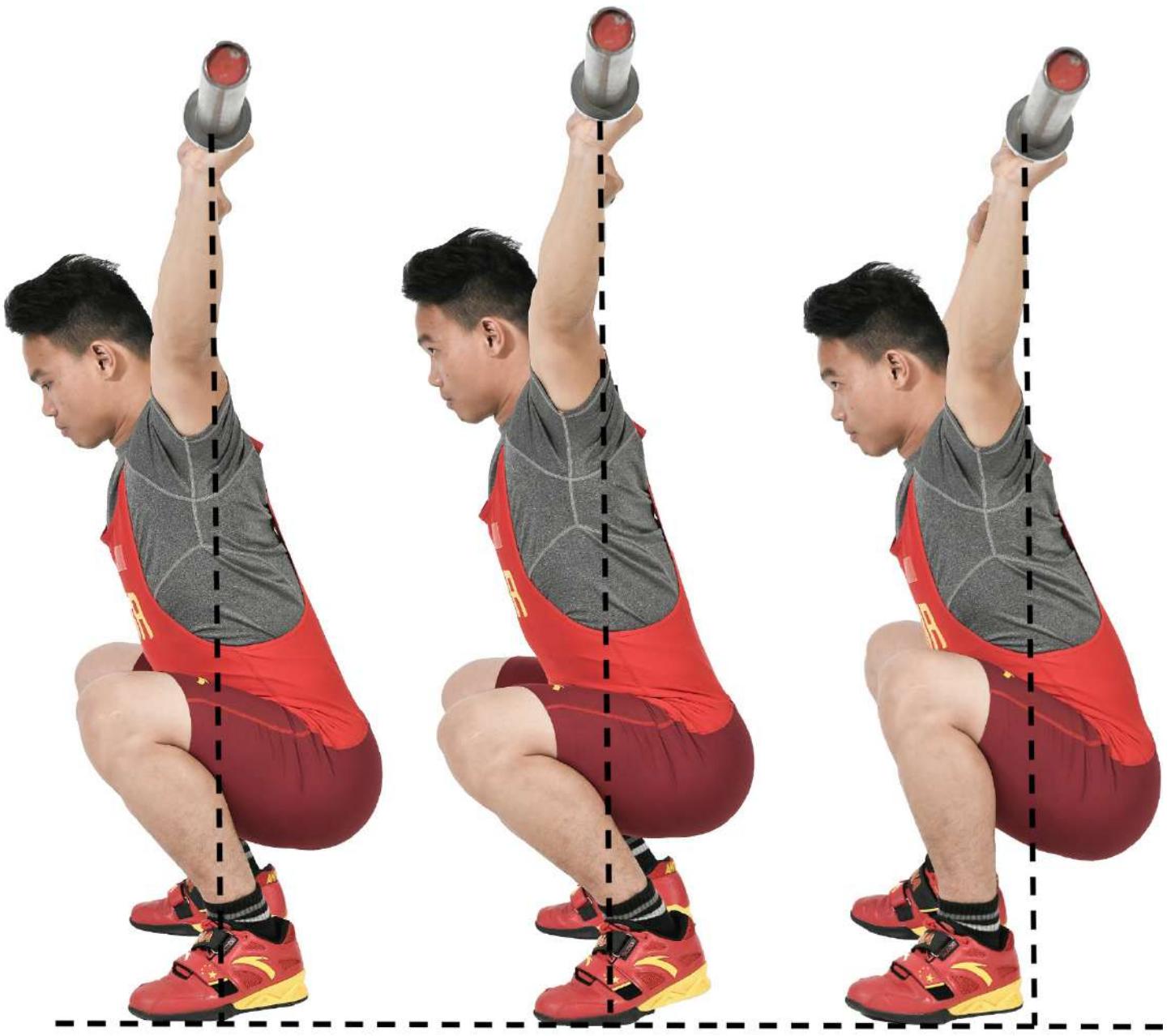
Fault:

If your balance is near the ball of the foot or toes, your knees will travel forward and possibly lift your heels off the ground. To avoid falling forward, most athletes lean back to straighten their torso and bring their hips closer to the barbell, but this entire movement reduces the size of your base and violates the “stable” principle. This instability places more stress on the body, especially the shoulder and elbow. This position can result from a jerk dip that shifts your balance forward since it can push the barbell diagonally and away from your body. Additionally, it can result from a lack of ankle strength, flexibility, or mobility, which cause your heel to rise to achieve a low depth.

You will have similar problems if you shift your balance excessively backward. If your hips push back without pushing the knees forward, then you will catch with your balance your heels. This shift can lift your toes from the ground, which reduces violates the “stable” principle by reducing the size of your base. You might lean forward to avoid falling backward, but this increases the stress on the lower back during the recovery and on your shoulders since it will no longer align with the barbell. This position can occur if your balance during the jerk dip is too far back, your extension is too long, or you do not internally rotate your arms during the catch.

Coaching Tips:

- See the Jerk Dip sections in the Jerk chapter for fixing balance issues.
- See the Extension Upper Body Coordination section of this chapter to improve your timing.
- For motor control, try performing overhead squat variations to the depths where you begin to lose balance, such as:
 - On to a box,
 - With pauses,
- Assisted by tying a band against a squat rack, stepping inside the loop, and then walking back until you have enough tension to support your squat. Additionally, implement presses from the front squat and back squat position to the depths where you begin to lose balance.



Balanced
Catch Over
Midfoot



Catching
on the
Toes



Catching
on the
Heels



Catch: Lower Back Tension

Compared to the snatch, the barbell travels a shorter horizontal distance from the rack position to the catch position during the squat jerk. However, the weight is much heavier, and the barbell is further from the ground during the squat jerk, so torso stability is critical.

The standard in China is to maintain the most upright posture while balancing the barbell over the midfoot. This position keeps the lower back rigid, which transfers force from the legs through the torso more effectively to resist the downward force from the barbell. Additionally, it engages the abdominals and glutes to stabilize against horizontal movements from the barbell.

Fault:

As in the snatch, some athletes maintain their balance over the midfoot but naturally posteriorly tilt their pelvis as they achieve a low squat position. However, if the squat is unbalanced and/or the lumbar flexion is excessive, this can place the lower back under heavy load at high speed, which increases the risks of lower back pain or injury.

There are many ways you can achieve this rounded position. The first way is through a suboptimal jerk dip. If your balance is off during the jerk dip, the barbell trajectory changes and forces you to lean forward or shift your balance back during the catch. If you drive the barbell too high, then the barbell will have more time to accelerate downward, so you relax during the squat to increase your depth and range of motion to stop the barbell. All of these faults violate the “stable” principle by causing your lower back to flex.

Coaching Tips:

- Strengthen your anterior shin muscles with:
 - Split-squats with the front foot elevated,
 - Narrow stance squats,
 - Step-ups to a high box.
- Incorporate overhead squat variations with a jerk grip to the depth where your lower back begins to round:
 - Partial squats,
 - Box squats,
 - Squats with hanging weights.
 - Also, perform behind the neck press at this depth.
- Perform a squat while holding a 5 – 10kg disc in front of you to assist in maintaining an upright torso position.



Tight
Back



Rounded
Back



Catch: Squat Width

The hardest part of the squat jerk is stabilizing it in a squat position. Your squat width determines your maximal depth for the catch, which affects your stability and the amount of stress you will absorb.

The standard in China is to catch the barbell using the same stance used for a back squat, which is about shoulder-width. This stance is the strongest for utilizing leg strength, and it allows the body to lower into the lowest position possible. Catching in this position reduces the necessary height to lift the barbell during the extension, which reduces its downward momentum and increases the athlete's stability. A low catch also brings the barbell closer to the ground makes the catch position more resilient to horizontal movements.

Fault:

Some athletes have the same width for their deadlift and squat, so they do not adjust their feet in the clean or the jerk. For everyone else, the stance to prepare for the jerk is the same as the deadlift stance, and both stances are narrower than their squat stance. If you do not adjust your feet after the extension, then your thighs will get in the way of your torso as you lower into a squat. This narrow stance limits your ability to catch deep with a tight lower back, so you might perform a power jerk or half jerk to catch the barbell higher. However, a higher catch requires you to push the barbell higher, which violates the "low" principle and is more work.

Another common issue among beginners is catching the barbell in a wider stance than their standard squat. This stance can result from a lack of coordination in the jerk dip and extension to perform a deep squat. For example, if the reversal in the jerk dip is too slow, you will have less upward momentum from the barbell to assist your extension. So your body must extend longer to compensate, but you will have less time to squat under the bar. So, a wide stance is a compensation to achieve depth and stability, but the stance violates the "timing" and "low" principles.

Coaching Tips:

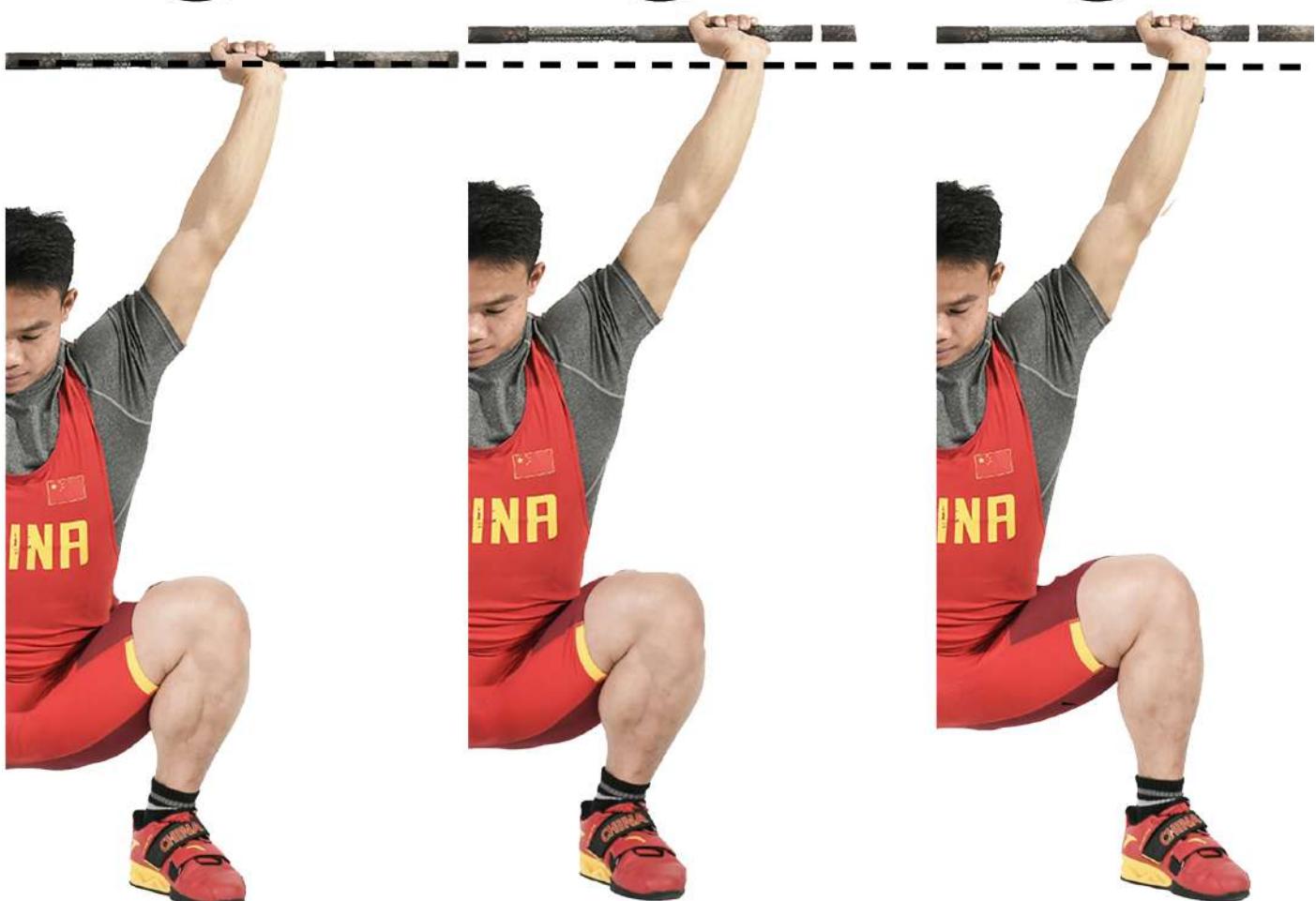
- Extend on the ball of the foot, then slide into your squat stance.
 - If you feel more comfortable catching in a different stance than your overhead squat, then consider training your overhead squat in the same stance as your squat jerk.
 - If you do not feel comfortable changing your squat stance, then place two mats parallel along the lateral side of your feet using the same width as your squat, and stay within these lines as you receive the bar during the squat jerk.
- Perform jerk dips to build rhythm for the squat jerk.
 - Perform squat jerks with the discs near the end of the bar to increase its elasticity and allow you to build rhythm with light weights.



Optimal
Catch

Narrow
Catch

Wide
Catch



Catch: Knee Alignment

The squat jerk position is the most sensitive than the snatch and clean because the barbell furthest from the ground, so small movements forward or backward have a big influence on your balance. Your knee alignment is especially important to ensure the stress on muscles, tendons, or ligaments is appropriate to maximize your balance and stability.

The standard in China is to turn the feet outward and align them with the knees to push through the midline of your foot. The exact angle depends on the hip structure, thoracic mobility, and ankle mobility of the athlete. For example, some athletes have excellent ankle mobility, but their hip structure does not allow for a lot of hip external rotation, so they point their toes relatively more forward in the catch. This angle is not a fault but rather a result of genetics.

Fault:

Rotating your knees out past the lateral edges of the feet is a common error in the West. Some athletes perform this movement to achieve a lower squat position, but it might compensate for an excessively narrow squat stance. In this case, rotating your knees move your thighs outward to create space for your torso to descend. However, this knee movement violates the “stable” principle because it reduces the size of your lateral base to support the barbell and increases the difficulty of your recovery. If your knees do not move outward sufficiently, you still might support on the lateral edges of your feet but your thighs will block your depth, which violates the “low” principle.

Rotating your knees inward is another fault that violates the “stable” principle. Inward rotation can occur if you relax your squat to increase the time to stop the barbell. This position can place unnecessary stress on the knees and relax your lower back, limiting your power during the recovery. Alternatively, an excessively wide stance can limit your knees from rotating outward sufficiently and prevent dorsiflexion, so the only strategy to achieve greater depth is to rotate the knees inward. However, this position will be high for most athletes, which violates the “low” principle.

Coaching Tips:

- Implement the following movements and focus on keeping your knees aligned with the midline of your foot to improve your coordination and posture:
 - Narrow-grip overhead box squats at various heights (quarter, half, full),
 - Progress to paused narrow-grip overhead squats at various heights,
 - Also, use power jerk recoveries and squat jerk recoveries,
 - Then progress to 3-level jerk to build positional strength and gradually lower depth.



Foot, Shin,
and Thigh
Aligned



Knees
Opened
Excessively



Knees
Caved
In

Catch: Rotation

The space between your arms forms the lever to stabilize the barbell. Since the squat jerk has a narrower grip than the snatch, this lever is smaller and hence requires more effort to stabilize the barbell. Therefore, minimizing rotation is especially important for the squat jerk.

The standard in China is to catch the barbell evenly to minimize its rotational movement. This position keeps the barbell aligned over the midfoot, which preserves the athlete's balance and maximizes their ability to push against the barbell. Additionally, this position disperses the load evenly on both sides of the body.

Fault:

Overhead rotation during the squat jerk can result from asymmetry in the upper body during the rack position and jerk dip. For example, some athletes hold the barbell level across the clavicle with one elbow rotated higher due to one side of the body overworking to stabilize the bar. Conversely, some athletes can hold the barbell appropriately, but they have asymmetries in lifting their arms, rotating their shoulders, or supporting weight overhead.

These asymmetries violate the “timing” principle because one side completes the catch while the other side finishes in an incomplete position. This asymmetrical catch can move both sides away from the vertical line over the midfoot, which violates the “stable” principle. The stronger side absorbs more of the load while the weaker side is in a suboptimal position, which can cause pain on one or both sides of the body.

Coaching Tips:

- Follow suggestions in the sections Jerk Dip: Elbow Symmetry and Jerk Dip: Depth in the Jerk chapter.
- Have a partner hold a PVC vertically along one side of the barbell, then perform the following movements while maintaining the same amount of contact. If you do not have a partner, then you can perform the movements against a squat cage:
 - Partial narrow-grip overhead squats,
 - Narrow-grip overhead squats to a box,
 - Barbell presses with a jerk grip at various back squat heights (quarter, half, full).



Even
Catch



Rotated
Catch



Squat Jerk Recovery

The recovery is the last step before completing the squat jerk. As the barbell rises, small movements have a larger influence on your balance, so your recovery must minimize horizontal forces to ensure a successful lift.

The standard in China is to lift the chest aggressively and contract the glutes to keep the barbell moving vertically over the midfoot as the athlete stands up. In this situation, the hips and shoulders rise together to prevent forward movement in the torso or backward movement in the hips. The head should maintain its 45° downward tilt to keep the load on the upper trapezius and midback muscles.

Fault:

Moving your hips backward during the recovery can easily destabilize your recovery. This compensation can occur from coordination issues when standing up from an overhead squat. For example, the inability to extend your hips at the bottom of a squat can pull your knees, thighs, and foot pressure inward. If your thighs get in the way of your hips, then you violate the “stable” principle because you cannot move your hips forward. Instead, your hips will shift backward.

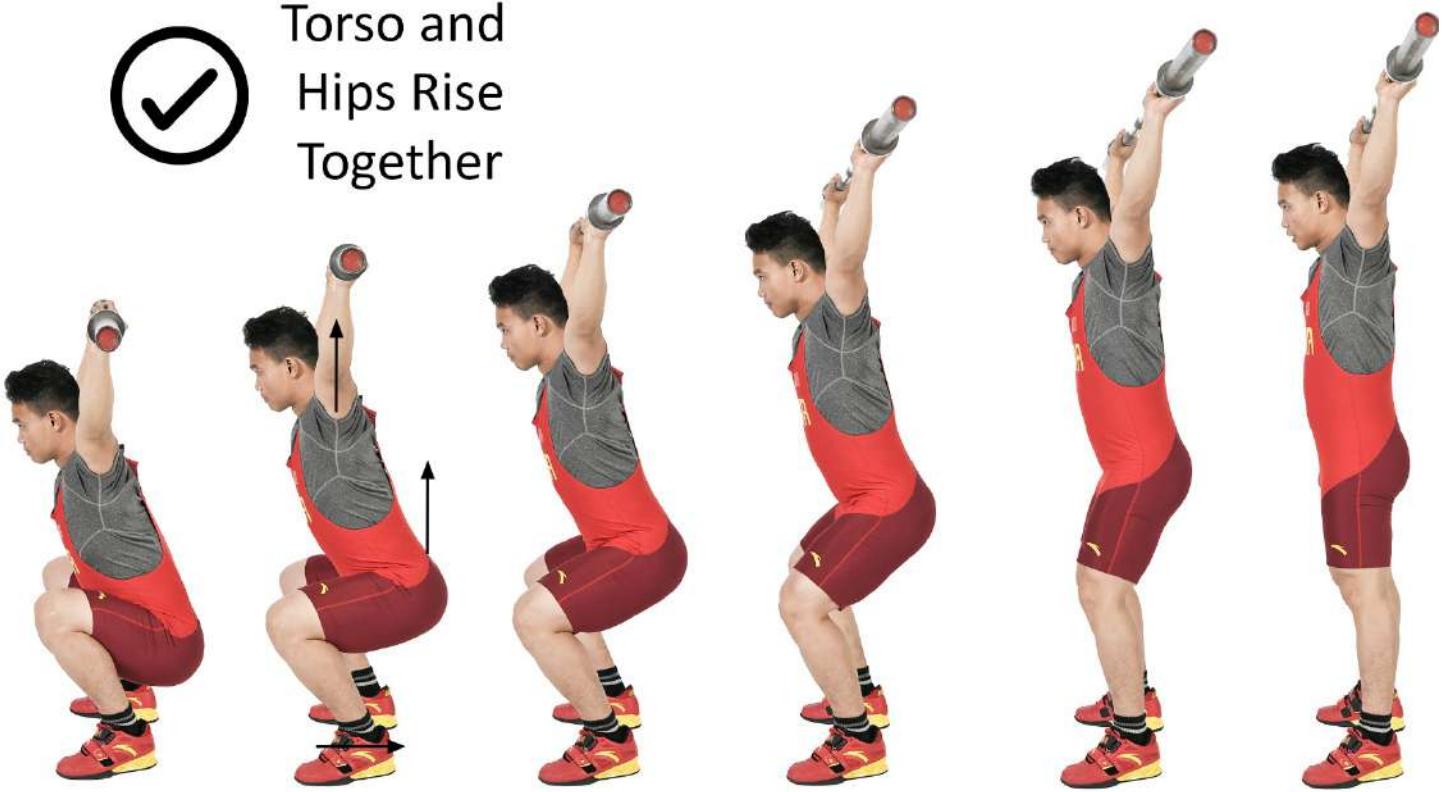
As your hips move backward, shifting your head forward can generate a forward force to create balance. However, this compensation inclines your torso forward and requires greater shoulder flexion to balance the barbell. It is difficult to lean back because this creates backward momentum, so the usual solution is to raise your hips. This issue can also occur if you rush the recovery and not focus on controlling your body to stand.

Coaching Tips:

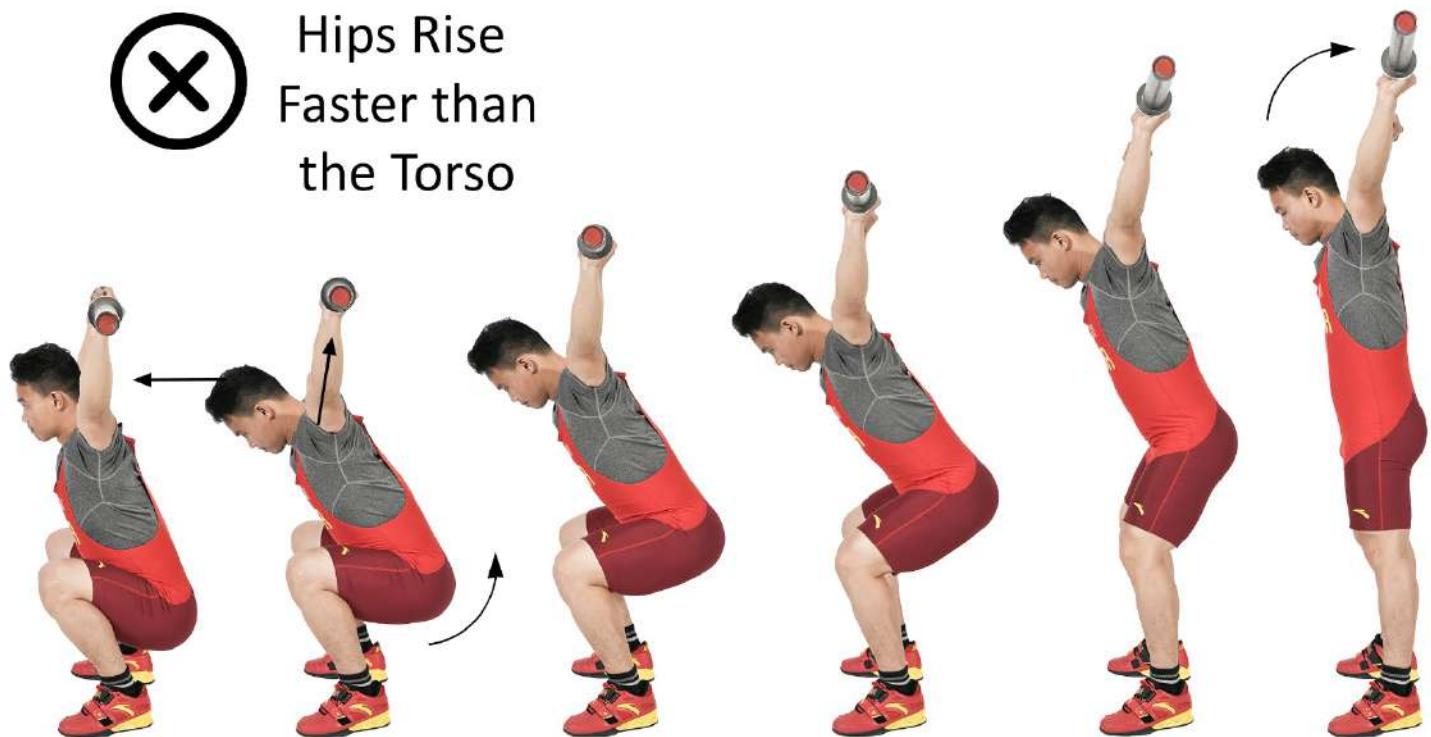
- After you catch the barbell, have a partner place a stick vertically aligned with your midfoot.
 - Make sure the barbell is in contact with the stick
 - Stand up while maintaining the barbell contact with the stick
- Implement the following movements and focus on extending your legs and hips simultaneously to improve your coordination and posture:
 - Narrow-grip overhead box squats at various heights (quarter, half, full) and use a pause to emphasize the recovery,
 - Then progress to narrow-grip overhead paused squats at various heights (quarter, half, full),
 - Perform these overhead squat variations with bands around the knees if your knees collapse excessively.
- Place a piece of tape on the side of your waist. As you recover, focus on lifting the tape vertically.



Torso and
Hips Rise
Together



Hips Rise
Faster than
the Torso



Authors





About the Authors



Manuel Buitrago, Ph.D.:

Coach Manuel received his honorary coaching credential in weightlifting from Chengdu Sports University in Sichuan, China. He has been traveling to China since 2003, studying and translating Chinese sports science research articles, manuals, and textbooks on weightlifting. Mentored by Ma Jianping, Manuel learned Chinese weightlifting techniques and training methods and trained with professional Chinese weightlifting from various training bases throughout China.

Coach Manuel has taught Chinese weightlifting technique, theory, and programming in China and around the world. His knowledge of Chinese language and culture allows him to bridge language barriers and convey the essence behind Chinese weightlifting methods to Western audiences without changing the content. He has conducted Chinese Weightlifting seminars in Spanish, Portuguese, and is working on Italian translations.



Ma Jianping:

Coach Ma Jianping trained under Zhao Qingkui, one of the founders of the Chinese weightlifting system. Ma was on the Chinese National Team from 1978 to 1988 and represented China in the 69kg class at the 1984 Los Angeles Olympic Games. He also won a silver medal and two bronze medals while competing in four World Championships and World Cups. He is currently a 2-time World Master's Champion.

Coach Ma has been a coach for over 23 years, beginning as a Provincial coach and rising as National level coach for China's Junior team. He was the head coach of the Seychelles National Team and the USA World University National Team from 2003 to 2007. Coach Ma received an undergraduate degree from Anhui University in China in 1989 and received his master's degree in exercise science from Xi'an Sports University in China in 2007. His lifters include Li Ping, 2005/2007 World Champion, and 2010/2011 Asian Games Champion in the women's 53kg class and 2002 World Silver medalist Sun Ruiping in the women's 75kg class.